

MANUFACTURERS RECORD

A Weekly Newspaper Devoted to the Industrial, Financial, Railroad,
Mining, Contracting, Engineering, Building, and General
Business Interests of the South and Southwest

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The Chemical Exposition and Chemical Meeting in New York.

Senator Underwood Says Present Tariff Bill Was for Express Purpose of Decreasing Revenue.

The Government's Work in Securing Southern Negroes for Eastern Employment.

The South Spending \$50,000,000 a Year on Improved Highways.

Steel Rail Consumption in 1914 and 1915 Smaller Than Since 1898 and 1899.

How Texas Iron Ore Men Missed \$36,000,000.

BALTIMORE, SEPTEMBER 28, 1916



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MANUFACTURERS RECORD

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER

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FROM THE GEORGIA SECTION OF AMERICAN CHEMICAL SOCIETY.

J. S. BROGDON, Analytical Chemist,
Atlanta, Ga., Sept. 21.

Editor Manufacturers Record:

The executive committee of the Georgia Section of the American Chemical Society instruct me to express to you our great admiration and sincere appreciation of your wonderful chemical edition. Such splendid work in furthering chemical industries in the South is bound to result in great prosperity. It is constructive work on a vast scale.

The people of the South, as well as the chemists, are greatly indebted to you for such efforts.

J. S. BROGDON, Secretary.

SOUND TAPS FOR "SOUTHLAND."

WE note with pride that the Columbia State, a newspaper of pride and understanding, announces that it is published not in the "Southland," but in the "South." It declares, too, that the "Southland" exists only in valedictory speeches of young ladies' boarding schools, and that it should be barred there. We regret to report that it flourishes elsewhere. It is a rank growth in the "Northland." In Congress you can find it almost any day in the boring leave-to-print section. On the Chattanooga circuit it runs strong. It goes so trippingly with "sunny" that only the most conscientious lyceumite will omit it. But we agree with our South Carolina contemporary that it ought to be rooted out and destroyed. The South will have to do the job. If it has the grit to stand pat, it may kill "Southland" as dead as Canada has killed "Our Lady of the Snows."—Chicago Evening Post.

Success to the Columbia State in its effort to kill "Southland." The MANUFACTURERS RECORD has made it a rule for years never to permit even a flamboyant orator to land "the Southland" in its columns unless by oversight. It has protested with all the vigor at its command against "the Southland," and has suggested to some of its readers that when "Eastland" and "Westland" and "Northland" have come into universal use then it will be permissible to use "Southland." Until that day comes, however, let's bury "Southland" beyond resurrection, except in the valedictory speeches of the "dear, sweet things," who, turned out by boarding schools and immature so-called colleges, designate the South as "the Southland"; give them the privilege, if they insist upon it, but let all other people of common sense refuse to change the South into "Southland."

HERE in Texas we send the seller of the liquor to the penitentiary and the buyer of the liquor to the Legislature—Waco Times-Herald.

We never knew before what was the matter with the Texas Legislature.

SENATOR UNDERWOOD SAYS PRESENT TARIFF BILL WAS FOR EXPRESS PURPOSE OF DECREASING REVENUE.

THE Birmingham Ledger, referring to its statement, "The Democratic party is not extreme on the tariff. Anything that needs a protective tariff can get it," republished in the MANUFACTURERS RECORD of last week, adds the following:

The Democratic party at St. Louis, with President Wilson's approval, adopted as its tariff plank the words, "We reaffirm our belief in the doctrine of a tariff for the purpose of providing sufficient revenue for the operation of the Government economically administered, and unreservedly endorse the Underwood tariff law as truly exemplifying that doctrine. We recognize that tariff rates are necessarily subject to change to meet changing conditions in the world's production and trade. The events of the last two years have brought about many momentous changes. In some respects their effects are yet conjectural and wait to be disclosed, particularly in regard to our foreign trade."

What the Ledger said was carefully inside the party platform and in accord with what Mr. Wilson has since said publicly.

The Ledger says that the Underwood tariff law truly exemplifies the doctrine of a tariff for the purpose of providing sufficient revenue for the operation of the Government economically administered.

Senator Underwood, however, takes a very different view of this tariff bill of his, because, in an authorized statement made by him and published in the MANUFACTURERS RECORD in January last, referring to this bill, he said:

"When the present fiscal legislation was written the Democratic party in the House of Representatives, where the legislation was inaugurated, reduced taxation at the custom-house deliberately for the purpose of making room in our fiscal system for a tax on wealth. As the chairman of the committee which reported that bill and as the spokesman of my party at that time, I wish to say that that change of system was not haphazard; IT WAS NOT WRITTEN TO MEET REVENUE EXIGENCIES; it was done with great deliberation, because the party that I then had the honor to represent on the floor of the House believed that it was only just to the great body of American people that at least a portion of the burdens of this Government should be borne by the wealth of the country as well as by the toiling masses."

Senator Underwood's statement is the frankest confession so far as we know that was ever made in regard to the policy underlying the Underwood-Simmons bill. The Democratic party has been for a tariff for revenue, but Mr. Underwood stated that he deliberately planned his tariff bill for the purpose of making a deficit in the revenue from the tariff in order to create the basis on which to establish the income tax system. Commenting on this on January 20, the MANUFACTURERS RECORD said:

"Had an enemy of this tariff bill made such a statement as this there would have been few people in the country willing to believe such a charge, but, coming from the father of the bill, it is an amazing illustration of the disregard of the framers of this bill of the doctrine which their party has for so many years proclaimed, 'a tariff for revenue.' In place of this, the framers deliberately, according to Mr. Underwood, sought to prevent the raising of a revenue by tariff sufficient for the Government's needs and aimed to create a deficit in order that they might have the opportunity of introducing the income tax system."

"No intelligent man is opposed to a wisely devised system of an income tax, but it would be infinitely better if the income tax were left to individual

States to be used for the benefit of education and road-building and kindred work.

"To deliberately undertake to lessen the revenue from imports, not for the purpose of claiming to lessen the cost of imported goods to consumers, but for the express purpose of creating a deficit, is one of the most striking illustrations which could be given of the economic blunders of the whole Underwood-Simmons bill.

"Senator Underwood's statements, while exceedingly interesting, are of very great value to the country because of this frank avowal of the reason of the existence of the Underwood-Simmons bill, which is as erroneous from other points of view as from that of wise fiscal legislation.

"It has been supposed that this bill had been formulated largely upon the mistaken theory of the free-trader that a low tariff would insure to the prosperity of the country. It was not supposed that this tariff bill was enacted for the express purpose of violating the principle of Democracy which has for some years proclaimed that the tariff should be formulated for producing revenue and not for creating a deficit."

The position then taken by Senator Underwood illuminates the whole subject and shows how the country was deceived by this tariff legislation and how directly contrary it was to the Democratic platform, which said:

"We reaffirm our belief in the doctrine of a tariff for the purpose of providing sufficient revenue for the operation of the Government economically administered."

But Senator Underwood, the father of the tariff bill, says of this tariff bill that the Democratic party

"Reduced taxation at the custom-house deliberately for the purpose of making room in our fiscal system for a tax on wealth."

STEEL RAIL CONSUMPTION IN 1914 AND 1915 DROPPED BACK TO CONSUMPTION OF 1898 AND 1899.

A SAD illustration of the depression in railroad construction—and that, of course, means in general iron and steel business—during 1914 and 1915 is found in a study of the statistics just issued in the annual report of the American Iron and Steel Institute.

In 1914 and 1915 the total consumption of steel rails in the United States was 3,684,223 tons, as compared with 5,937,857 tons in the two preceding years.

In 1913 the consumption of rails was 3,052,635 tons. This dropped suddenly in 1914 to 1,792,986 tons.

We have to go back to 1898 and 1899 before we can find any two consecutive years in which the consumption of steel rails was as small as in 1914 and 1915. The total consumption in 1898 and 1899 was 3,676,658 tons, or a difference of only 8000 tons after eighteen years. In that time the country's population has greatly increased, farm products have enormously expanded, manufacturing interests have grown, and yet the consumption of steel rails for 1914 and 1915 was almost exactly the same as for 1898 and 1899.

Last year's new railroad mileage was the smallest since 1862, or less than 800 miles. Notwithstanding these conditions, we have kept on, through national and State legislation, hampering the railroads, making it almost impossible to secure new capital for railroad expansion and practically requiring the roads of the country to make "brick without straw."

In 1912 and 1913 iron and steel production had rallied from the depression following the panic of

1907 and made a great gain over 1911, showing an increase of from 23,600,000 tons of steel in 1911 to 31,251,000 in 1912 and 31,300,000 in 1913, but when hit even by the threat of the Underwood-Simmons bill iron and steel production rapidly declined and the whole industry was on the toboggan slide to ruin when it was saved by the unprecedented demand created by the European war.

ALWAYS FOR DEVELOPMENT OF SOUTH, REGARDLESS OF POLITICAL PARTIES.

UNDER the heading, "The South's Best Friend Is the Record," the Enterprise of Maryville, Tenn., says:

The last issue of the MANUFACTURERS RECORD of Baltimore is devoted to the chemical and mineral potentialities of the South. Numerous articles of great interest from specialists in the different lines appeared, and every one of them was a boost for the South.

For years the MANUFACTURERS RECORD has been preaching the development of the natural resources of the South, and never has it faltered in saying that the great need in the South was a definite protective tariff in order that the industries and products of this section might be properly developed. Being a Southern journal, it can suggest with a great deal of energy the things that should be done. If the statesmen of the South would adopt the MANUFACTURERS RECORD as their campaign textbook, they could do a greater good to the South than they are accomplishing now.

In a time that is not far distant the South is going to be the store and supply house of the nation, and when that time arrives, it will be in part, at least, a monument to the management of the MANUFACTURERS RECORD, for the South does not have a truer friend than this good paper.

The MANUFACTURERS RECORD has been preaching the doctrine of a protective tariff as essential to the South for a third of a century, and the longer it has studied the question the more deeply it has become convinced of the necessity of continuing to preach this doctrine. If there was ever a case in history showing the wisdom of a protective tariff, it is the marvelous power and efficiency of Germany, which has protected its industrial interests to an extent that we in this country little dreamed of. It has not only given them a tariff protection, but the Government and the Emperor himself have taken direct personal interest in watching the development of the individual enterprises and co-operating to make sure of their success. The MANUFACTURERS RECORD has often given illustrations of this which have come to it from men who have studied the situation in Germany. Germany's ability to maintain a population of 65,000,000 people on an area considerably smaller than that of Texas; its ability to create its vast shipping and financial and industrial interests, and its ability to carry on the present war have been due very largely to the wise system of developing its own industries by a protective tariff. However much we may be opposed to the ruthless barbarism of Germany's methods of warfare in its destruction of Belgium, the sinking of the Lusitania and kindred work of indescribable evil, we are compelled to recognize its marvelous fighting machine and the efficiency of its work, and it can all be traced back to the efficiency of its industrial interests and its chemical and manufacturing progress, as well as its agricultural progress, based on protection.

Germany has thus strengthened itself and rounded out its national life by a consistent protective tariff policy. In this country we have found it difficult to maintain a well-ordered, rounded-out protective policy, because we had no sooner established a protective tariff than the free-trade interests of the country, largely backed by importers in the seaboard cities, have sought to pull it down, and thus a system which should be as well ordered and as permanent as the Government itself has been the football of politicians. The South has permitted itself to be misled by its politicians until many of its people have been clamorous for free trade, though unable to give a reason therefor, or at least a reason which was founded on truth. Its free-trade campaign has very largely been merely an opposition campaign. The Republican party has taken from the old Whig party and from the Democratic party of olden days many of its best features, but the moment the Republican party favored a policy of any kind the Democratic party has opposed it, not on principle, but merely for politics' sake. The overwhelming

poverty and ruin brought upon the South in the days of Reconstruction by the Republican party of those days, of course, helped to make this possible, but there is no reason in the world why, at this late day, the Democratic party should refuse to uphold a good thing merely because it is upheld by the Republican party, whether it was or was not at one time a Democratic policy.

The MANUFACTURERS RECORD has no interest in parties as such. As a Southern paper, identified in sentiment with the South in every possible respect, it very naturally inherited all of the tendencies and thought of the people of the South on political questions, but, viewing the whole situation from the broad point of view of the best interests of the South, regardless of party affiliations or party ties, the MANUFACTURERS RECORD has unceasingly advocated a protective tariff as essential to the broadest prosperity of the South.

It has been unsparing in its criticism of Republicans and of Democrats whenever they have done what in its judgment was contrary to the best interests of the South and of the country. It has commended Republicans and Democrats alike when they have done what to it seemed to be for the best interests of the South.

Unsparringly it criticized President Roosevelt in some of his policies, especially the way in which he settled the anthracite strike in Pennsylvania. It is equally unsparing in criticising the mistake made by President Wilson in surrendering to the railroad brotherhoods, and its condemnation of the Republicans who voted for that measure is equally as strong as its condemnation of the Democrats who voted for it. They were all playing disreputable politics and catering to the labor vote, and they recognized, as many of them who voted for that bill stated, that they were being held up practically at the point of a pistol; but they did not have the courage to risk what they thought might be their political prospects to safeguard the interests of the nation.

WILL JUDGE GARY FOLLOW HIS OWN GOOD DOCTRINE?

JUDGE GARY, president of the United States Steel Corporation, in a letter to Hudson Maxim, stating his belief in a navy equal to that of any other nation and a Federal army of at least 250,000 men, said:

We should have, removed from the seacoast, adequate facilities for keeping an army and navy well supplied with their necessities.

We are glad to see that in this position Judge Gary is in complete accord with the views which the MANUFACTURERS RECORD has so persistently put forth, but to provide these adequate facilities for keeping an army and navy well supplied would mean the building of armor-plate plants, or, at least, one; the building of great ordnance plants and powder plants and nitrate plants, and other interests essential to providing the things needed for an army and navy, far away from the Atlantic coast, and likewise far away from the Lake coast, for the Lakes are but a connecting road to Canada and Canada is a part of another country.

It is to be hoped that we shall never be in war with Canada or with Great Britain, but it would be folly for us to depend upon Lake Superior ores or foreign ores as raw materials for these "adequate facilities for keeping an army and navy well supplied with their necessities," which Judge Gary advocates.

But more than actual guns and armor plants are required. Great iron and steel plants are required far in the interior; and no man in all the world is in a better position to bring this necessity to the front and to meet this condition than Judge Gary.

It is in his power to develop in Alabama and elsewhere, far away from the coast and far away from the Lakes, great iron and steel plants which in time of war would be absolutely necessary to provide the "adequate facilities for keeping an army and navy well supplied with their necessities."

We trust that Judge Gary will in the near future carry out the doctrine which he so earnestly advocates.

THE MUTILATION OF THE DYE BILL BY CONGRESS AND THE NATION'S HUMILIATION.

IN studying the address of Dr. Charles H. Herty, president of the American Chemical Society, and especially that portion in which he lays bare the humiliating and inexcusable action of Congress in the mutilation of the tariff bill on dyes, it should be borne in mind that Dr. Herty is a native of Georgia, is professor of chemistry in the University of North Carolina, and is at the same time broadly an American. He is, therefore, in a position to discuss this subject and to hold up the betrayal by Congress of the nation's welfare apparently in the interest, so far as can be seen, according to Dr. Herty, of one concern. What was the power that enabled one concern to compel Congress to overrule itself, go contrary to the advice of all leading chemists in the country and of the combined advice of consumers and producers alike, with the exception of one consumer?

Discussing this point in his address, which we publish in full in this issue, Dr. Herty says:

The completed section of the Revenue Bill was then endorsed by the full committee and by the majority-party conference, and was adopted by the Senate. In the last hours of the session the section emerged from the joint conference of the majority-party conferees from both Senate and House with indigo and alizarin excluded from the special duty and carrying along with them, as a sort of legislative by-product, medicinals and flavors. As no record is published of the proceedings of conference committees we are left to assumptions as to the influence which prevailed to give the section its final form; but in the light of the history of the legislation and the personnel of the conferees, as published in the Congressional Record, it is not difficult to imagine whose influence was determinative in maintaining the discriminatory feature of the original House legislation, against which united protest had been made save for the voice of one consumer. The section in this disastrous form was then adopted by both Senate and House and is now the law.

Such is the answer of the present Congress to the nation-wide (with one exception) call for adequate protective duties for the encouragement and upbuilding of this much-needed industry. The claims of this industry, upon non-partisan legislative aid, are reasonable, because of initial difficulties in manufacture and the character of the competition to be met after the war. These claims are also commanding through the intimate connection of the industry with adequate munitions for our army and navy. Nevertheless, the measure professedly enacted for its upbuilding stands today stamped with the evidence either of the most specialized form of legislation for special interests; or of stupidity, as a tax placed upon the consumer without the benefit of an assured home industry; or of stubbornness in maintaining a wrong position rather than admit an error in judgment. I do not believe the citizens of this nation will set the seal of their approval upon such legislation.

Well may Dr. Herty say that this bill is "stamped with the evidence of the most specialized form of legislation for special interests."

AN INSPIRING EXHIBIT.

M. R. WINSTON D. ADAMS of the Observer, Charlotte, N. C., writes:

Allow me to "bow the knee" in acknowledgment of your achievement in assembling and presenting such an array as that included in your last issue, "The Chemical Potentialities of the South." The exhibit is inspiring; indeed, the most impressive I have seen in my extended acquaintance with Southern development. You have rendered the South a service that is destined to prove a great thing in the years to come.

From many other papers and from business men everywhere come testimonies such as this, beyond the limits of our space to publish, but they are fully appreciated.

THE NATIONAL GOVERNMENT RESPONSIBLE FOR INDUCING NEGROES TO LEAVE THE SOUTH FOR EASTERN EMPLOYMENT.

IT would seem that the movement of negroes from the South to the North has, to a considerable extent, been brought about by the Department of Labor at Washington. According to a dispatch from Washington to the daily papers, it is said that the first important effort made by the Department of Labor to secure men for Northern employers was to fill an application which came from the Erie Railroad and that this was shortly afterward followed by a similar application from the Pennsylvania Railroad. By the time a thousand negroes had been moved North, however, the Department of Labor awoke to a realization of the fact that there were a comparatively few unemployed negroes in the South, and the Department instructed its agents to confine their activities to securing employment for negroes in their immediate sections.

Thus the Southern cities, which have been vigorously undertaking to suppress the agents who were drawing negroes away from this section under the impression that they were employed by Eastern railroads and manufacturing concerns, are up against the fact that the Department of Labor admits that it was the responsible organization for undertaking to supply negro laborers from the South to the Erie and Pennsylvania railroads, thus draining this section of labor badly needed at home.

This is but one more illustration of the fact that the Government is often butting into things which it does not understand and which should be left to economic conditions to work out to a final solution. The Government's activities are becoming altogether too multitudinous.

From Birmingham come reports of a shortage of unskilled labor in that district because of the exodus of between 4000 and 5000 negroes drawn from that section by prospects of work at high wages on the Pennsylvania Railroad, in West Virginia mines and in the coal fields of Kentucky and Pennsylvania.

The Birmingham district is not the only section of the South from which the negroes are emigrating, and a statement of the case as it appears to a Pennsylvanian is found in a letter by Rev. Howard Wayne Smith in the Public Ledger of Philadelphia. He attributes this movement of population from the South to the East to war conditions in Europe, which have stopped immigration into this country. In former days track laborers and construction gangs in the East were largely made up of foreigners. Now the Slavs and the Hungarians and the Italians, instead of crowding to our shores and doing the rough work of this country, are in Europe, or at least those who are alive are there, doing the rough work of war.

The scarcity of labor in the munition factories of the East has resulted in these enterprises drawing upon all available labor at high rates of wages, and men have crowded from other industries into the munition plants to get the exorbitant prices that have been paid by reason of Europe's demand for war supplies. With a reduced supply of labor, drawn from other industries and from railroad work, into munition factories, and the cutting off of immigration, some big concerns, railroad and industrial, in the East and the West, aided by the National Government and by individuals, have had their agents throughout the South offering high pay and easy conditions to negro labor. The result has been a very heavy movement of negroes from the South to the East and to the West.

These facts have been repeatedly stated in the MANUFACTURERS RECORD, but the subject continues to command increasing attention. It was not known that the Department of Labor had been active in this campaign until the announcement made this week to that effect.

Dr. Smith in his letter in the Philadelphia Public Ledger says:

There can be no question about the drift of colored population to the vicinity of Philadelphia. Neglected, these people are a menace; cultivated, they become an asset. Intelligent white citizens must awake to the situation. In all they may do they are assured of the strong and willing

co-operation of the best elements of the colored citizenship. This is a matter beyond the sphere of speculation; it is a real opportunity for preparedness against many threatening evils. The negro is an American. He needs no naturalization papers; more, he needs the opportunity which naturalization bestows upon the foreigner. He needs neither to be exploited nor exported, but to be educated and encouraged, especially industrially. He does not beg for social, but for industrial recognition.

It was recently stated that over 700 negroes from the South had been placed in the tobacco fields of Connecticut, and an appeal was made for co-operation to help in looking after them.

The negro problem has been largely a Southern problem. The North and West have not understood it. Many Northern and Western people have been bitter against the South because they did not understand the negro question nor the negro character. The massing of negroes in the South is a disadvantage to this section from many points of view. The scattering of the negro population into other sections of the country will be an advantage to the South, partly offsetting the loss of these men as laborers.

The scattering of the negroes into the North and West will make the negro question a national problem instead of a sectional one, and the whole country will then the better understand the difficulties under which the South has labored in handling the negro question. So long as the North and West know nothing by practical experience of this question they will never understand the South's difficulties, but just as soon as negroes are sufficiently scattered over the North and West to bring the question directly before the people of these sections, there will be a national study of the problem instead of a sectional study, as has heretofore been necessary.

There are some other features in connection with this negro movement to the North and West which will also be of advantage to the South. This section has depended too largely upon manual labor, and in many respects upon slipshod farming methods by negro tenants. There has been a disposition to buy up large tracts of land and farm it by negro tenants, who had no interest other than what they could get out of one year's crop, uncertain as to whether they would remain on the land next year or not. With a lessening of the supply of tenants there will be a tendency towards concentration of energy and work upon the cultivation of a smaller acreage by intensive farming rather than a large acreage by wasteful farming methods. In many cases on the farm and in the factory where manual labor has been used, because of the abundance and low price of negro labor, it will now become necessary to substitute mechanical equipment to the advantage of every industry in the South.

If the negroes who go North and West should find that they have not reached the Garden of Eden, as they had expected, and later on return to the South, they will have a higher appreciation of their advantages in this section than they had before, and will be better and more faithful in their work.

The MANUFACTURERS RECORD, therefore, does not look upon the movement of negro population from the South as wholly an evil to the South, but regards it as having some offset in the long run, though temporarily it will interfere with some farming and business operations. The scattering of the negroes will change the whole thought of the country as to the negro question, and the South will be the better for this change.

RESPONSIBILITY OF RAILROADS TO PREPARE FOR WINTER TOURIST TRAVEL.

THERE are indications that the tourist travel to the South this year will largely exceed even last year's record-breaking business. It is important, therefore, that the railroads and the tourist hotels of the South should get ready to handle this business adequately and avoid some of the many complaints made last winter in regard to the overcrowding of trains, the roughness of traveling by reason of long trains and inadequate hotel accommodations.

The railroads are alive to the situation, and we take it for granted that the hotel people are. In attempting to carry trains of 12 to 14 Pullmans last

winter the railroads almost shook the life out of many of their passengers and made it exceedingly difficult, by reason of the number of passengers to the train, to provide satisfactory dining-car service. Some passengers at times had to stand up for an hour or two to wait their turn at meals. Some found it necessary to carry a basket of food to last them from the East to Florida in order to avoid the long, tiresome wait to get into the dining cars.

It is true that some of the railroads have been endeavoring to overcome this situation by trying to get additional dining cars, but the rush of business in the steel mills of the country has made it well-nigh impossible to have built in time as many new cars as are needed. It becomes necessary, therefore, that some other means should be planned to meet this condition.

The South is merely at the beginning of its winter tourist business, and it is incumbent upon Southern railroads, absolutely regardless of the outlay required, even if they have to pay for dining cars far more than they are intrinsically worth, they should provide sufficient cars to meet this condition; they should shorten their through trains and not undertake to handle 12 or 14 Pullmans at a time. Such long trains cannot be handled except to the discomfort of passengers and to injury of their health, thus creating an antagonism to the railroads of the South and to the South itself. We have seen this illustrated in so many cases that we cannot too strongly impress upon Southern railroads the necessity of meeting this condition without regard to the cost of doing so. A Milwaukee millionaire who knows Florida well and pleasantly recently said to the writer that the discomfort of getting to that State drove many Milwaukee people to California and some even to the Sandwich Islands for the winter season.

In great emergencies great things must be done, and done quickly. It has been well said that procrastination is never safe in a crisis. The railroads of the South have a crisis before them in the question of handling this winter's passenger traffic. They cannot afford to procrastinate, nor can they, except at a very great cost to themselves and the South in damaged reputation, hesitate at big expenditures to overcome existing disadvantages.

THE SOUTH SPENDING \$50,000,000 A YEAR ON ROADS.

DETAILED reports compiled for the MANUFACTURERS RECORD from Government figures which will shortly be issued show that during 1915 the South spent over \$50,000,000 upon highway work, or an increase compared with 1904 of 448 per cent. This section is spending annually two-thirds as much as the \$75,000,000 which the Government recently voted to spend during the next five years in co-operation with all the States in the Union.

Under this bill, helpful as it has been in co-ordinating the road-construction activities of the country—and that is the most important feature of it—Florida, for instance, will secure during the next five years an aggregate of about \$850,000, while one county in that State recently voted a bond issue of \$1,500,000 for road work, which is almost double the entire amount that the State will receive from the National Government for road work during the next five years.

This is typical of the spirit with which the South is pushing its road-construction activities. The statistics given in our Washington correspondence on the subject would show that in the aggregate there was expended in 1915 upon the rural roads and bridges of the United States \$282,000,000, of which more than \$50,000,000 was expended by the South. This will show something of what is being done toward changing our whole country by supplanting impassable mud and sand roads by great national highways.

"TAKE the tariff out of politics?"

Not so long as the candle holds out to burn for the vilest free-trade sinner to return.

"PUNK PROSPERITY."

UNDER the heading of "Punk Prosperity," the Times of Tampa, Fla., expresses its disgust with the so-called prosperity of the day.

Does not the Times know, as all good Democratic papers should know, that, according to the statement of the Democratic Campaign Textbook, the country is enjoying "unparalleled prosperity"? Does it not know that according to that same official publication the country is rolling in wealth and that this "unparalleled prosperity" is not due to war conditions? The Times will have to be read out of the party if it undertakes to publish such stuff as the following, found in a recent issue:

The banks of New York and other cities are reported to be groaning beneath the weight of deposits, and in some sections large loans are being made at unprecedentedly low interest rates. At the same time vast fortunes are being made through furnishing Europe with war and food supplies, and the United States is, for the first time, the creditor nation of the world.

That our country is in infinitely better financial condition than ever before is certain. No one can doubt that, but—

Where do the salary and wage-earning men and their families come in?

For years the prices charged for foodstuffs of all kinds, owing to market manipulation, have been beyond all reason, and in recent months flour has bounded upward until the 5 cent loaf of bread will be a thing of the past within a few weeks.

The prices charged for bread are in keeping with those charged for other necessities, and, almost without exception, they go higher each month.

Yes, the United States is in a wonderfully prosperous condition, but the average father, struggling under these price burdens, only realizes the fact from "hearsay evidence," and it is becoming daily more evident that the next duty of a Democratic Congress will be to enact some law that will protect him and his loved ones from thieving sharks who manipulate markets in foodstuffs as carelessly as a negro boy throws dice for a ten-cent piece.

The prosperity that doesn't reach the masses is—well, it is a punk kind of prosperity.

It is very true that the prosperity of the day is not the kind of prosperity which the country should have. It is a prosperity which has been brought about by Europe's unprecedented demand for the production of American farms and factories with which to carry on its war. This has flooded the country with gold and brought about wild gold inflation—an inflation almost as rampant as would be greenback inflation, an inflation which endangers the permanent prosperity of the country unless the situation is very wisely handled.

The man of small fixed income, the salaried man and many others are not getting any of the benefit of this prosperity. They are being ground between the "upper and the nether millstone."

The Times, like all other newspapers, can speak from experience on the prosperity question with paper from 100 to 150 per cent. above former prices, causing every publisher to wonder how long he can stand the strain of this so-called prosperity before going to the poorhouse.

The demand for employees in munition factories has been so tremendous that exorbitant rates of wages are being paid and men are being drawn from other pursuits. The steady advance in the price of labor everywhere in this country is adding enormously to the cost of foodstuffs and all other products of farm and factory and to the cost of handling stuff between the producer and the consumer. And President Wilson and Congress lifted high the banner of still higher prices when they surrendered to the railroad men. They simply intensified the situation and added another heavy burden to the consumers.

The salaried man cannot see any increase in his income, except here and there, but he finds a heavy increase in the prices of what he buys.

There are no laws within the power of man's ingenuity which can be passed to change this situation without bringing on general ruin, and the fewer laws we have on the subject the more quickly will economic conditions right themselves. Take the newspapers, for instance. They cannot by law force down the price of paper. They must, to save themselves from ruin, cut down the amount of paper used until production exceeds consumption, and thus get lower prices for paper in that way, but it is a killing struggle while it lasts.

The Democratic party promised lower cost of liv-

ing, but we all know that it did not give us any lower cost of living. On the contrary, the cost of living has tremendously increased in the last few years, and this would have been the case if the Republican party had been in power.

The Democratic party was stupidly foolish when it made the promise. The only way in which it could have given a lower cost of living would have been by increasing the depression which existed during the first two years of the present administration and continuing the downward trend of business until so many people were out of employment that there would have been no money with which to buy anything, and then everything would have been cheap.

The Times is, of course, wrong in supposing that the advance in the price of foodstuffs is due to market manipulation. A moment's study of the matter would show it the error of its way.

Last year we raised over 1,011,000,000 bushels of wheat. This year's crop is 611,000,000 bushels, or 400,000,000 bushels short of last year's yield. This year's crop is scarcely equal to the actual consumptive requirements of the country, even if we did not export a single bushel of wheat. Europe, however, is eagerly buying our wheat, and the exports out of this year's crop and the small balance brought over from last year will leave this country so bare of wheat before the next harvest that it is altogether probable that present prices will at that time look very cheap. The consumer can no more get cheap bread than the Times can buy cheap paper. Both face "the stern logic of facts" of "a condition, not a theory."

There has been a general falling off in our crops, due to unfavorable weather conditions, and the aggregate decline in all grain is considerably over 1,000,000,000 bushels, while the heavy demand for labor increases labor's demand for food. The two things necessarily spell high prices, and very high prices, for foodstuffs. Neither the Democratic party nor the Republican party is responsible for this condition. No laws passed by Congress can change it. The only possible thing that can change it will be to raise more foodstuffs during the coming year, or to bring about such industrial depression as to lessen the demand for foodstuffs. Which does the Times prefer?

Of course, if, within the next few months, the Dardanelles should be opened by the Allies and the vast amount of wheat stored in Russia be poured into the markets of Europe, the demand on this country would be greatly lessened and we might have enough wheat to go around without any serious advance over present prices, but even that would not, for this year at least, bring cheaper bread.

Russia annually raises nearly as much wheat as our record crop of last year, or in the neighborhood of 1,000,000,000 bushels. Prior to the war its wheat was shipped via the Dardanelles to other European countries, but since the shutting off of these Russian shipments England and France and other European countries have had to draw more heavily than ever before upon the American supply. This, coupled with a short crop this year, has naturally brought about high prices for wheat, and it is absurd to say that the baker, with the heavy advance in his raw material, can continue to sell bread at as low a price as formerly. The newspaper, whose raw material has more than doubled in price, must increase its rates and decrease its operating costs or "bust," and "the baker and the butcher and the candlestick maker" are in the same boat. It is a hard situation, but we might as well face it.

The Times is on the wrong track.

PEACE NOT IN SIGHT.

IF peace should suddenly come to Europe, wheat would go down and cotton would go up in price.—Waco Times-Herald.

Correct as to cotton; probably incorrect as to wheat; but peace is not going to come to Europe shortly. A long, bloody war is still ahead of the Allies as they battle to save the world's civilization from the barbarism of the Huns. They are fighting our battle as well as their own.

MUCH-NEEDED RAIL ROUTES TO FLORIDA.

RAILROAD construction in Florida is proceeding with reasonable activity, considering the difficulties which environ promotion of new transportation enterprises at the present time, but there is a fact very apparent to anyone who gives attention to the railroad facilities of the State, and that is the lack of a through route along the west coast such as is afforded on the east coast by the appropriately named Florida East Coast Railway. The Atlantic Coast Line comes near to having the desired west coast route, but it lacks about thirty miles of trackage which would connect up a through route that would be of great advantage to travel between Florida and our whole Western country all the way from and including Chicago and St. Louis to the Northwest, the Southwest and the Pacific coast. Now Jacksonville is the junction point for all travel in Florida, but it is 125 miles farther eastward than is necessary for west coast traffic, provided that the connection mentioned be constructed. This means that passengers from Western points have to go to Jacksonville in order to get to Tampa, thus zig-zagging across the State in a wholly unnecessary manner, wasteful of time, energy and money.

Two years ago the Atlantic Coast Line built the first link in this west coast route, which it has had in mind for some time, this bit of construction being from Dunnellon northwest to Wilcox, fifty-one miles, connection being made at the latter point with its line which runs onward in the same direction to Perry, Fla. There the work has ceased, for the time being at least, and the company now has its attention directed especially to getting a line away down into the center of the Everglades region by building from Sebring to Immokalee, about eighty miles. The first section of this to Venus, thirty miles south of Sebring, is under contract and work is being pushed. A branch from this main line to Moore Haven is also under consideration.

While it is necessary to provide facilities for this section of the State, where the vast interior prairie lands are yet to be developed, it is the manifest duty of the company to simultaneously grasp the opportunity to provide the public with the much-needed means of direct communication to and from the western coast of Florida, particularly in view of the fact that less than thirty-five miles of construction is all that is required to make the desired route; in fact, the distance from Perry to Monticello is only about thirty-two miles. With this link built, the Atlantic Coast Line would have a line directly south from Albany, Ga., where it connects with the Central of Georgia Railway for Western business, to Thomasville, Ga.; Monticello, Perry, Wilcox, Dunnellon, Inverness and Lakeland, Fla., for Tampa, and also for Bartow, Arcadia and Fort Myers, Fla., which latter is a little farther south on the west coast than Palm Beach is on the east. This would also be a direct route from the West to the new extension which the system is building into the Everglades, as noted. The company thus has a line farther southward than any other Florida road, excepting the Florida East Coast Railway, which has traversed the extreme length of the State by building to Key West.

If this west coast route was established by the construction of the link from Perry to Monticello it would be possible to land passengers at Tampa within not more than one or two hours longer time than it now requires to put them into Jacksonville, and Tampa is 241 miles from Jacksonville.

The need of this west coast route becomes more and more urgent every year. Travel to and from Florida is rapidly increasing in volume and the pressure upon the roads is heavy. At times the facilities are inadequate and people have to wait for days to obtain sleeping-car reservations. If there was a west coast line, some of this travel would be diverted from the now overcrowded route through Jacksonville and everyone concerned would be benefited.

There is a possibility that the Seaboard Air Line will be the first to provide a west coast route. It could do so by extending its line that now runs southeast from Tallahassee to a point not far from

perry and then continuing the work to Wannee, a total of about sixty-five miles. A couple of small links—one of about ten miles and another (from Inverness to Brooksville), about twenty miles, would be required to make the route direct, but it would involve a total amount of construction little more than the Atlantic Coast Line has had in view from the beginning to make its west coast route. The Seaboard has such a route in mind; it has contemplated it ever since the acquisition of the Tampa Northern, which it controls.

The Atlantic Coast Line may have its line completed first. The company has not abandoned its intention to construct the necessary extension to make the route complete; it has only put it aside. What both roads should do is to build immediately. The opportunity to establish and make popular great through routes between Florida and the West is at hand, and these companies could do themselves and Florida and all the country between Florida and the West great good.

DO WE REALIZE THE MEANING?

THE Carolina Farmers and Truckers' Journal of Wilmington, N. C., representative of the trucking interests of the South, in discussing the passage of the Adamson bill, makes some very strong statements which should be considered by those who have undertaken to treat this matter purely as a political game and who apologize for the men guilty of putting the bill through. The MANUFACTURERS RECORD did not publish the many statements from Southern papers which it lately printed without profound regret that a sense of duty compelled it to let the country see the situation as viewed by leading Southern newspapers, even though in doing so it has been compelled to bitterly criticize many men in official life with whom it has had the most intimate personal relations. But any paper that permits personal or party affiliations to cause it to shut its mouth at such a time as this would be false to its responsibilities.

The Carolina Farmers and Truckers' Journal, commenting on this whole situation, says:

The country is ringing with indignation from one end of the land to the other by people in practically every walk and station in life over this shameful surrender of the people's rights and cowardly betrayal of our public servants to the trust reposed in them, whom we had selected as sentinels upon the watch-tower to safeguard our welfare and protect us against the rapacity of a handful of trainmen. Shame upon every man, Congressman and Senator alike, regardless of political affiliations, who laid down in front of the enemy and thus surrendered the rights of his constituency to mob rule instead of the rule of reason and arbitration which had become the shibboleth of Mr. Wilson and the present administration—the foreign as well as domestic policy.

Verily have we fallen upon dangerous and strange ground if the time has come when a handful of people who haven't a dollar invested are to manage and direct the property and affairs of men who have millions invested in enterprises, and greater still is the danger threatening the peace and tranquility of this country if a handful of men are to terrify the President of the United States and Congress, hold up the country in broad daylight and through Congress coerce the people in to paying tribute to their coffers by increased freight rates on \$9,600,000 people only for the benefit of 400,000 of the best paid employees in the land.

Farmers are usually about the last people to protest against any grievance, real or imaginary; but in view of the fact that Congress having enacted a law compelling the railroads to stand for an eight-hour day with ten hours' pay, which will add to the operating expenses of the railroads approximately \$60,000,000 a year, and realizing that these railroads have no other income than that from their freight and passenger service, it goes without saying that freight rate advances are a foregone conclusion and the 18,000,000 farmers in this country are going to be taxed pro rata to make up this deficiency.

For these and other reasons the farmers naturally are up in arms against this game of hold-up, and make no concealment of their condemnation and hostility to any such practices. As a matter of fact, the duty of Congress and Mr. Wilson both was plain and unmistakable. They had every right to offer their good offices for a peaceful settlement or adjustment of this controversy, involving investigation first and then arbitration; but they had no right to take sides with either faction or jeopardize the welfare of the whole country for the benefit of a favored few. Better had let the threatened strike take place and have it out, for the man who is unwilling to have his differences arbitrated by disinterested parties

has got a bad case and a leaky craft. If conceded to today, he will demand another concession tomorrow, and to satisfy any such would be out of the question.

Now that the smoke of battle has cleared away we are better convinced than ever that the proposed Brotherhood Trainmen's strike would have been a failure had it been attempted. We have it upon good authority that not exceeding one-third of the Brotherhood membership of the Atlantic Coast Line and Seaboard systems would have walked out, and they had offers of ample help to take the places of every one made vacant. On the other hand, it will be recalled that on Saturday and Sunday before the date set for the strike the Trainmen's Brotherhoods in various parts of the West had writs of injunctions issued to prevent carrying out the strike orders, and in various and other ways were there evidences to convince the most skeptical that the strike on Labor Day would have been a failure had it been ordered as originally announced, in the face of the Brotherhood's refusal to arbitrate the differences.

As to the differences between the railroad executives and Brotherhood of Trainmen, we are not in position to pass judgment; but we do contend that no righteous demand or issue could possibly suffer at the hands of impartial and disinterested arbitrators. Such a policy would not only carry out the public approval and sympathy on the part of the masses, but righteous judgment and a policy that is tantamount to a trial by jury. But we do not blame the Brotherhood Trainmen any more than we do the President and members of Congress, unreasonable as were the contentions of the trainmen. If they were in error, the President and Congress should have convinced them. But at the hands of the United States Congress, who are representing 109,000,000 of the most intelligent and law-abiding people on earth, we did expect something at least. We got nothing, however, but humiliation at their hands and a precedent so dangerous as to threaten the safety and perpetuity of the foundation stones of the Republic.

OUR CHEMICAL ISSUE AS VIEWED BY A CHEMIST.

Editor Manufacturers Record:

To "read, mark, learn and inwardly digest" all that is written so ably and interestingly in the MANUFACTURERS RECORD of September 11 would require a great deal more time than I have been able to give it as yet. Fortunately, no such detailed study is needed to convince anyone that its composition and distribution constitutes an unprecedented, an unparalleled achievement in industrial journalism.

"Oh, wad some power the giftie gie us" to compel the careful study of this most remarkable publication! If there were only some sure and certain way of ensuring that the governor of every State, the president of every railroad, the director of every State geological department, the manager of every industrial organization, chambers of commerce, boards of trade, etc., would give to this one issue of the MANUFACTURERS RECORD their careful consideration, of what incalculable benefit to the entire country it would be!

However, as the clever editor of Drugs, Oils and Paints said (in substance) in a recent issue, "It would seem that the average American would rather go to his ruin on his own responsibility than to succeed with the assistance of others."

This, it seems to me, is a pretty accurate description of the attitude of the average manufacturer, mine owner, etc. (in the South, at least), toward technical experts. If our State and railroad officials, our bosses of "Big Business" (and little business, too) could only be induced to avail themselves of the advice and assistance of those who know much more about certain phases of their affairs than they (the officials) can possibly know:

There seems to be, though, on the part of such, a mistrust of such proffered aid and a deep-rooted conviction that its sole purpose and purport is to advance the interests of the expert, with no thought of any mutual benefit. It is the old story of taking a horse to water, etc. However, the diffusion of such knowledge as is contained in every issue of the MANUFACTURERS RECORD in general and in the issue of September 11 in particular cannot fail to soften some of the stony soil on which it falls, and there must be in the near future harvests—some of thirty, some of sixty and some of an hundred fold.

WM. N. BERKELEY.

Richfield Springs, N. Y.

Limited space makes it impossible for us to publish the many enthusiastic commendations which have been received in regard to our special issue, "The Chemical Potentialities of the South," but the spirit of these letters is so fully voiced in this one from Mr. Berkeley that we are giving space to his letter, hoping that it may stir thousands of people who have not studied the facts presented in that issue with the thoroughness which they should give to matters of such importance, to investigate what the many noted experts of the country have said in our Chemical issue about the resources of the South and how to bring about their largest development.

THERE WERE GIANTS IN THOSE DAYS.

COMMENTING on some facts recently presented by the MANUFACTURERS RECORD showing that the South is hardly keeping step in industrial and shipbuilding development with the rest of the country, the Pensacola Journal says:

Never was the South in such need of commercial, industrial and agricultural leaders as now, not even in Reconstruction days. And who so qualified as the bankers and business men to lead the people from out of Egypt into a land flowing with milk and honey? Agricultural development depends upon the business men and bankers no less absolutely than commerce and industry. Here in Pensacola we are beginning to realize this, perhaps better than do certain other parts of the South. It is the business men of Pensacola who will retain the farm demonstrator for Escambia county. It is the business men who will take a leading part in the Stock Growers' Association at Magnolia. It is the business men here, as everywhere else in the world, who are making the model farms, installing the latest machinery, and experimenting to find out where two blades of grass will grow where only one grew before. Many of these farms are operated at a dead loss, but the farmers benefit from the practices that are found to be sound. Finally, it is the business men who develop the markets.

The Journal is correct. The South does indeed need leaders. It has been wobbly. It is not "hewing straight to the line" with quite the vigor and energy relatively which marked that superb period of development beginning in 1879 or 1880, when, under the guidance of many of the great men who had been Confederate leaders and who have now passed away, this section rallied from defeat, threw itself into industrial activity and gave to the world a demonstration of its power.

We appreciate to the fullest all that is being achieved today, but as we look back over that period and recall how capital was pouring into the South from the North and the West and from Europe, how railroads were being built by American and by foreign capital, how industrial enterprises were being established by outside money, we are forced to see that the spirit of enthusiasm, the tireless energy of those days, which duplicated in leadership and in energy the four years of struggle of the Confederacy against overwhelming odds, was relatively greater than what is going on today. This is sad, but true.

We trust that the suggestions of the Journal will be heeded and that leaders will come forth in agriculture, in manufactures and in all other lines of activity to give this section its rightful place in world affairs.

ARE SUCH ADVERTISEMENTS ETHICAL AND LEGAL?

THE MANUFACTURERS RECORD is in receipt of a letter from a North Carolina attorney who states that a number of towns in that State have recently advertised bonds for sale, when as a matter of fact the bonds had been previously sold in advance or contracted for sale to engineering companies who had agreed to take them at par and expenses in connection with contract work, the motive for the advertisement being merely to comply with the legal requirement that the sale must be advertised. It is said that these advertisements carry the statement that the bonds cannot be sold for less than par and all expenses and that at the rate paid they could not in the open market be sold for such figures, but that, though advertised for sale, they have already, in advance of the advertisement, been contracted for to firms engaged in contract work.

The question is raised as to whether this is ethical or legal. This is an interesting point which may be worth investigation and discussion.

WILL THE TRAINMEN RATIFY THE SALE?

IN a bulletin addressed to the Brotherhood of Railroad Trainmen, W. G. Lee, the president of the organization, says:

It is urgently requested that the position taken by President Wilson and both branches of Congress be not forgotten, and that all members use every honorable means to retain in office, regardless of partisan beliefs, those who have proved their loyalty to the cause of labor.

THE UNFORTUNATE HABIT OF EXPRESSING OUR VIEWS ON PUBLIC QUESTIONS.

DR. CHARLES H. HERTY of Chapel Hill, N. C., president of the American Chemical Society, in a letter to the MANUFACTURERS RECORD, says:

I certainly enjoyed, and do most heartily endorse, the sledgehammer blows you have been delivering in connection with the humiliating national experience of the eight-hour law. Keep it up. The country needs just such fearless words as you have been speaking on this subject.

As the editor of the MANUFACTURERS RECORD is a native of the same State which gave President Wilson to the country, and as he has been since the MANUFACTURERS RECORD was established fighting for the South, it is needless to say that this paper would have infinitely preferred to be able to commend the administration and the representatives from the South in public life rather than to criticize them. It would have been a thousand times preferable to the MANUFACTURERS RECORD to have felt justified in enthusiastically commending the work of the Administration and of the party in power instead of having to give voice to the views which called forth this commendation from Dr. Herty and one from Dr. J. B. S. Holmes, one of the leading physicians and surgeons of Rome, Ga., who writes:

I am much interested in your able articles in reference to the President's act in yielding to the labor unions.

I am greatly disappointed in Mr. Wilson. His mistake will be far-reaching, will cause much bloodshed and millions in money to the public before the matter is finally settled, whereas if he had let the matter alone, the strike would soon have been adjusted, and permanently so.

And another letter along the same line is worth thinking over. Mr. W. R. Bauguess, attorney-at-law, Jefferson, N. C., writes:

Your vigorous treatment of the eight-hour law deserves the praise of all the public-spirited, liberty-loving people of our nation. After reading it all I feel like a bigger, better and broader man. Thanks to you for the great work you are doing for the country.

A letter from the West Texas Products Company, San Antonio, Tex., Mr. H. N. Timolat, vice-president and general manager, says:

Will you allow the writer at this time to congratulate you on the position that you have taken in regard to the Administration's action covering the big threatened railroad strike? We cannot help but feel that every manufacturer in the South realizes that we are in the presence of a critical situation as regards labor, and when our Government allows itself to be cowed and intimidated by the threats of four men, it is time for every American citizen, particularly those who employ labor, to make a vigorous protest against such action. Your hands will be upheld by every manufacturer in the South in your fight for freedom and justice on this question.

Perhaps it may be an unfortunate habit, but for the last thirty-four years the MANUFACTURERS RECORD has had the habit of expressing its views on public questions entirely without regard to whether it had to condemn or commend its friends or its enemies. We do not know any other way in which to publish an independent newspaper.

POTASH IN CUBA.

ON August 14, Mr. C. E. Taylor, La Muna de Metembo, Itabo, Cuba, in a letter to the MANUFACTURERS RECORD, said:

In a very short time I will give your paper an article on the Cuba potassium of salts, which will soon be on the market. The information of the vast quantity in the crude potassium rock recently located by my father, J. E. Taylor and myself will certainly relieve the potash situation.

Since then we have not heard further from Mr. Taylor directly, but cables from Havana have given information in regard to potash discoveries which are doubtless those to which Mr. Taylor refers, and a dispatch on the subject to the New York Times says:

An analysis of the surface potash discovered near Metembo, 100 miles east of Havana, by Senor Cardenas, chemist of the Cuban Department of Agriculture, shows 12½ per cent. of potash soluble in acid.

A sample was picked at random over the 10,000-acre

expanse covered with potash, recently discovered here. Other assays from the same field gave varying figures. One assay made in Virginia of specially-selected rock showed 40 per cent. soluble potash. Another assay of rock, said to have been picked at random, showed 24 per cent. This potash is termed oxide of potash, formula K_2O , while the formula for the potash from German mines, which is a chloride, is KCl . Several assays made of surface samples show the amount of soluble potash ranges from 12 to 29 per cent. Potash taken from holes drilled to a depth of 600 feet is alleged to assay 800 pounds to the ton.

Enormous quantities of volcanic breccia seems to be the source of the potash. It appears that the enormous volcanic heat separated the potash from the alumina. At the eastern end of this volcanic outflow is a very promising manganese mine, while immediately south has been discovered a flow of oil with a specific gravity of 62, which is practically gasoline. During the rainy season the larger part of the new potash field is covered with the water of a lake where, because of the soluble potash, mosquitoes do not breed. Although part of the lake is never dry, no fish or other animal life is present.

The discovery of Cuba's potash field was due to the fact that the ordinary scrub palm, which commonly grows 20 to 30 feet high, here grows 100 feet and over. The ash of one of these palms, it was found, gave 16 per cent. potash, and the discoverer reported the fact to a Virginia fertilizer company, thinking it possible to obtain potash by burning the trees. The company suggested that an investigation be made of the soil whence trees must obtain potash. The investigation led to the discovery of the field.

Considerable excitement exists here over the discovery, and a rush was made to register claims. One company registered 10,000 acres, which is the center of the deposits. Other claims are being registered nearby. Armour & Co. of Chicago, which firm has a fertilizer plant at Matanzas, has obtained an option on the 10,000 acres pending the arrival of their chemist.

"WILL THE SOUTH BE EQUAL TO ITS OPPORTUNITIES?"

MR. M. H. MEDEVEDETT of the Meriden (Conn.) plant of the New England Westinghouse Company, in a letter to the MANUFACTURERS RECORD, referring to the South, with special reference to some of the information found in our recent Chemical Issue, writes:

I am in receipt of your favor, together with the very valuable issue of your journal. The development of the South has for years found a champion in your columns, and its very brilliant industrial future will owe a great deal to just such an issue as lies before me.

The South, with its unlimited natural resources, can easily become the world's market for products needed in war as well as in peace. But to do this the captains of industry of the future South will have to take the chemist into their confidence.

The war will some day be over, as over it must. Competition will be very keen, and that nation whose industries are based on sound scientific principles, where wastes are utilized into sources of revenue production raised to the highest efficiency and economy—that nation will be victor in the crowded markets of the world, tariff notwithstanding. Here the chemist can be of service; with what success will depend largely on the attitude toward him. If he is given every encouragement, every opportunity, a remuneration enabling him to live decently as befitting his importance to the community, then will he be in the proper physiological mood for creative effort.

Dr. Venable's article should be sent to every thoughtful manager for careful perusal. One need only add that there is too much confusion between "Janitor Chemists" and well-trained men. One can only do as he is told, but the other can also see. His wandering eye can detect leaks, improve processes, find uses for the scrap heap and, if he is of the right stuff and given the chance, he can show his larger usefulness in almost any concern.

The MANUFACTURERS RECORD is to be congratulated in sounding the call to the South, of taking advantage of its wonderful opportunities which a bountiful Heaven laid at its door. Will it be equal to its opportunities? The answer lies in the future.

IS THE POSTOFFICE DEPARTMENT GUILTY?

THE Augusta Chronicle protests against the United States Postal Service being used "to advertise and drum up trade for whisky houses" in distributing the advertisements of liquor houses throughout such States as Georgia, where the distribution of newspapers or magazines carrying whisky advertisements is not permitted. The Chronicle says:

The Federal Government permits its Postoffice Department to be used by liquor dealers as a means of carrying liquor advertisements—and nothing but liquor advertisements—direct into the homes of the people. Worse still, the Postoffice Department accepts these advertisements without

specific address, and undertakes, at the price of one cent per delivery, to deliver these advertisements into the hands of a presumably prospective customer.

And then it gives an illustration of an envelope addressed simply Occupant, ——— Street, Augusta, on which it says:

Here is one, for instance, that in the past few days has gone no doubt into thousands of Augusta homes and into tens of thousands of homes throughout Georgia.

In closing a lengthy editorial discussion of the whole subject, the Chronicle says:

In the face of such methods as to keep the whiskey business going—even in the prohibition States, where it has been outlawed—is it any wonder that the public mind is turning, more and more, to national prohibition as the one sure means of ridding the entire country of this curse?

All of which is respectfully referred to the heads of the Postoffice Department at Washington, and to Georgia's Senators and Representatives in Congress, as well as to all the others who may be in any way responsible for this absurd situation.

Judged by the statements of the Chronicle, the United States Postoffice Department needs a rather rigid overhauling, or, if it has no laws which permit it to refuse to be a party to such methods as these, it is time a law was passed for that purpose.

SOUTH'S RICE CROP WORTH OVER \$25,000,000—MORE PEOPLE SHOULD EAT RICE.

REPORTS from the Southern rice belt, which is confined chiefly to Louisiana, Texas and Arkansas, are to the effect that a record-breaking rice crop will be harvested this year. The Government estimates are for a crop of 32,800,000 bushels, or, as ordinarily measured and sold in the South, 8,200,000 barrels. This is about 8,400,000 bushels larger than the past 10-year average.

At present prices the crop of the South will bring somewhere between \$25,000,000 and \$30,000,000.

With advancing prices of foodstuffs all over the world an effort should be made by the rice-growing regions of the South to press upon public attention the desirability and the cheapness of rice as a food. It is one of the most nutritious of all grains. It has not advanced in price like other foodstuffs. It can be cooked in dozens of ways; indeed, some say in hundreds of ways, and is palatable to nearly all appetites. In comparison with other foodstuffs, rice should be very much higher than it is, and it should come into much more general use.

The rice growers of Texas and Louisiana and Arkansas and the railroads of these States should wage a vigorous campaign to bring about a larger appreciation of rice and a better price for it.

OPPOSES ITS PARTY'S TARIFF COMMISSION BILL.

THE Daily Post of Houston, Tex., in an editorial criticising the tariff commission bill, takes the ground that Senators Underwood, Bankhead, Hardwick, Shields and Vardaman, who opposed this bill, were right and the passage of the bill was a mistake. It says:

The Federal Government is running too much to commissions. Few of them are doing more than affording soft berths for favorite statesmen who have suffered political reverses.

It is, unfortunately, true that "lame ducks" are cared for in Washington by the creation of jobs especially for them.

In closing its editorial the Post says:

It is to be hoped the day will come when Congress will stop creating useless boards, commissions and bureaus. They add to the public burden, complicate the Government's activities and accentuate the curse of sinecure which is already bad enough. Moreover, Congress ought never to delegate those powers which it can best exercise itself.

If the tariff commission offered the slightest prospect of solving the tariff problem for all time, and solving it right, the experiment might be worth while, but it does not. The tariff is a tax, and it will be subject to scrutiny and change so long as taxes are levied.

The Expanding Relations of Chemistry in America*

By DR. CHAS. H. HERTY, President American Chemical Society.

After a year of such strenuous service as characterized that through which we have just passed, it is well that we are again assembled for report on the work of our laboratories and for helpful conference concerning future growth and broader service. A large part of the past year's work has, through the suddenness of the call, been necessarily individualistic; the assemblage of this week furnishes the means for planning more coordinated effort, for mutual counsel and for deepening that spirit of co-operation which is so essential if we are to worthily meet our full responsibilities.

It is again incumbent upon me to address you. In seeking a subject I have put aside the temptation to lay before you statistics illustrative of marvelous growth during the past year, and in spite of our belief in specialization it has not seemed suitable to select any one line of development for tracing in thorough detail. This period is still too formative and the demands upon us too many-sided for such restricted discussion. I have therefore selected the broader topic, "The Expanding Relations of Chemistry in America," using the present participle advisedly as indicative of growth and as mandatory of greater effort if the widening circles of chemical influence are to reach the broad shores of full-fledged accomplishment.

The dynamic center of this movement is the American Chemical Society, which now consists of 8136 members, a net growth of more than 1000 during the year just ended. This splendid growth is not only a tribute to the energetic activities of our efficient secretary, but is an evidence of increased activity in chemistry and of a quickened realization of the need of the strongest possible national organization. The strength of this organization, however, is not measured so much by numbers as by the loyal and unselfish response of its members to every call made in its name. To this I can abundantly testify.

In considering the expanding relations of chemistry in America, let me group these under four heads—the relations to university administration, to the National Government, to our daily needs, and to national thought.

Relations to University Administrations.

Without doubt University executives have gained during the past year a clearer conception of the fundamental value of chemistry to the nation. Aside from our own exhortations, this conception has been easy of attainment, through the increased publicity given by the daily press and by periodicals to matters chemical, through the difficulty of purchase of certain needed supplies, through the feverish activity to meet these unexpected demands, and through the call for young chemists from university laboratories. Has the conception, however, been translated by the makers of university budgets into deeds which will insure an adequate response by the universities to the increased demand which is to be made upon them for chemists possessed of the best possible training? I have neither purpose nor desire to criticize, nor even to attempt answer, but I do not hesitate to suggest that in these abnormal times the demands upon chemistry departments are unusually great, and should be generously met if we are to view the future with equanimity. The bounds of the service of chemistry to the nation are prescribed by the character and extent of the training given in our universities. Physical equipment must be increased and bettered, and staffs must be maintained adequate in number to allow full opportunity for research along with teaching duties.

The stimulus of these remarkable times upon the minds of the students is plainly evident, but here lies a danger. The expansion of existing industrial plants and the creation of new lines of endeavor in chemical industry call for many young men to serve in control work, and the call is often very alluring. It would be a great misfortune if the filling of these new positions should be at the expense of the graduate students of the future. We cannot afford an abridgment of the num-

ber of young men thoroughly trained in our universities in the methods of research. Graduate fellowships in largely increased number should be provided, for without such aid the door of opportunity will be closed to many whose full mental potentialities will be needed in the future.

The danger of losses from university ranks, however, is not confined to graduate students. Already there are strong indications of a considerable raid by the industries upon the staffs of universities, and the question of professional emolument is therefore not one for leisurely future consideration, but belongs to the immediate present.

To sum up, the university budget for chemistry needs prompt and decided expansion.

In the matter of co-operation between universities and industries definite progress has been made. Four important matters typify this progress.

The New York section has conducted throughout its winter meetings a symposium on this subject, and these discussions resulted in a request of the society that a permanent committee be appointed to carry forward vigorously such co-operation.

The General Chemical Co. announced the formulation of a new policy in the creation of an advisory staff of university professors.

The Massachusetts Institute of Technology announced a master's course in chemical engineering, including a school of chemical engineering practice. Through the co-operation of industrial plants a half-year of systematic plant experience and training is added to the curriculum without sacrifice of thorough foundation work or training in research. In return for the privileges offered by the plants, the research facilities and the faculty of the institute will be available for the study of special problems connected with each plant.

A joint meeting of the Puget Sound section and the Seattle Chamber of Commerce aroused great enthusiasm and resulted immediately in the creation of industrial fellowships in the University of Washington for the study of the problems of the Northwest.

Such illustrations furnish proof that earnest thought is being given to this phase of co-operation, and it is inspiring to note how quickly such thoughts are being translated into definite action.

Relations to the National Government.

Forty-five members of the society, representing the several States and Alaska, on appointment, responded to the request of the President of the United States that the chemical industries be mobilized under the program of the organization for industrial preparedness. Publication of the correspondence in connection with these appointments would furnish lasting testimony to the loyal and unselfish patriotism of the membership of our organization.

In response to the invitation of the National Academy of Sciences our representatives are now co-operating in the organization of the research facilities of the nation and in questions connected with the establishment of the Government nitrate plant.

If we are to promptly and intelligently proceed with the development of a diversified and comprehensive chemical industry we must know the detailed character and amounts of chemical importations. The statistics now published by the Government are inadequate in their classification. The formulation of the character of the information needed is our responsibility. This is the work of the committee on Government statistics, of which committee Dr. B. C. Hesse is chairman. The inauguration of the work has unfortunately but necessarily been delayed. It is now well under way, and for its full consummation I beg to urge the thoughtful aid of every member of the society and the co-operation of each of the local sections. We have never undertaken any more important or fundamental work than this. If, as a result of this inventory, we are able to state in exact terms the specific character of the information needed by the chemical industries, in order to render

this country independent of foreign sources of supply, we will then have a right to expect with confidence the sympathetic co-operation of the Federal authorities.

May I, under this heading, make two suggestions to the National authorities:

First—Provision should be made in the immediate future for the storage of large quantities of Government-owned toluene. With the cessation of European war orders for explosives, and with the rapid increase of by-product retort ovens for coke manufacture we will eventually have a large overproduction of toluene, with consequent lowering of price. The potential value of this hydrocarbon in munitions is too great to allow its sacrifice as a fuel or as an illuminant, and its storage involves no unusual difficulties. The moral effect alone of its known presence in our midst would in itself fully justify the investment as a preparedness measure.

Second—Modern warfare is largely dependent upon the successful work of chemists, not alone in the direct production of munitions, but, through research, in husbanding the resources of the country and in increasing knowledge which in times of stress may be vital to the nation. In view of the now well recognized fundamental character of such work, the military authorities should formulate a definite policy in regard to the chemist, whereby in times of war his services may best be applied to the advantage of his country. The lack of such a policy during the recent enlistment of the National Guard has in several cases interrupted lines of research whose successful outcome would prove much more vital to the power of the army than the presence of the individuals bearing arms. England somewhat tardily recognized that her chemists were more needed at home than at the front, and therefore recalled them.

Relations to Our Daily Needs.

The economic developments of the past two years have emphasized the close relation between normal daily needs and the activity of chemists, particularly through certain shortages which have brought economic distress. Among these shortages three stand out pre-eminent—motor fuel, potash for fertilizer and coal-tar products, particularly synthetic dyestuffs. Let me discuss the first and second of these briefly and the third somewhat more at length.

Motor Fuel—The enormous annual increase of motors using gasoline as fuel, together with the largely increased export of this material, has resulted in greatly increased price of this product. To meet the situation, chemists have naturally turned their attention to the "cracking" of the residues of crude petroleum, furnishing thus some relief. In view, however, of the uncertainty of petroleum supply, such efforts cannot prove the ultimate solution of the problem. With the cessation of the war further aid may be expected from the benzol recovered in the by-product coke-oven plants. With this at its maximum, however, it is estimated that it would equal only 10 per cent. of the motor fuel now consumed. Plainly we must look further for the permanent supply, and that seems to me to be alcohol. I am fully aware that there is nothing original in this suggestion. It is mentioned rather for the purpose of urging greater consideration of the problem by chemists, who must solve the problem; by manufacturers of motors, who have such great interests at stake, and by lumbermen, who, in their mill waste alone, possess the raw material from which, by processes in operation today, alcohol could be produced equal in volume to 40 per cent. of our present gasoline consumption.

What striking advance in this line could be confidently expected if the automobile manufacturers and lumbermen of the nation would join forces with chemists in the creation of a great research laboratory where the problems of motor fuel could be vigorously attacked, not by the "green powder" method of recent notoriety, but by common sense, scientific investigation conducted by the ablest of chemists and chemical engineers, unfettered by tradition and filled with the conviction that the day of genuine new things will never end!

Potash—To meet our present shortage of this valuable fertilizer constituent we have sought relief fever-

*President's annual address at the meeting of the American Chemical Society, New York, September 26.

ishly through the kelp fields of the Pacific coast, the alunite deposits of Utah, the feldspars, blast furnace and cement works waste, and have as yet obtained but slight relief. Something noteworthy may yet result from these earnest efforts, especially through the aid of the appropriation of \$175,000 by Congress for further investigation of kelp, but at present we seem to have adopted the general policy of waiting until the war is ended.

Let me, in this connection, remind you of the old problem, namely, the rendering available *in situ* the potash now in the fields in the form of silicates. The records of the United States Bureau of Soils show that the average weight of a foot acre of the sandy soil of the cotton belt weighs 1750 tons, and contains an average of .1 of 1 per cent. potash, or 1¾ tons (K₂O) per acre, while the clay soils average in weight 2000 tons per foot acre and show an average potash content of 1.68 per cent., or 33.6 tons (K₂O) per acre. From this material nature slowly supplies available potash for plant food through the action of the soil solution upon the potash-bearing silicates, but the process is too slow. Many lines of research are in daily progress in our laboratories whose object is the discovery of "accelerants" for certain chemical reactions. Does not the importance of this problem and its altogether normal character demand of us greater effort to find a suitable accelerant for this world-wide process? The problem is easy to state; its solution has as yet proved impracticable. May we not hope that the activities of physical chemists through studies of the soil solution and its action upon the mineral constituents of the soil will ultimately be successful?

Coal-Tar Dyestuffs.—It is unnecessary for me to remind you at this time of the great disturbance of our industrial life which resulted from the cessation of imports of German dyestuffs, nor of the rapid extension of the by-product coke oven, whereby we are now assured of a far more than adequate supply of raw material for an American dyestuff industry sufficient for American needs. It is a pleasure to testify to the energy and resourcefulness of our dyestuff manufacturers, who, in spite of competition with the munitions industry for coal-tar crudes and for necessary acids and with uncertainty as to the future constantly dogging their steps, nevertheless, have notably contributed to the relief of the dyestuff famine.

It is my purpose, however, to trace, for the sake of the record, the efforts made during the past two years to obtain legislative assurance of a fair start in the upbuilding of a well-rounded permanent industry, and to point out the character of the legislation which on the last day of the present session of Congress became a law of the land. It is a distressing story, humiliating to all who wish for our country freedom in every possible form. Here is the story:

Immediately after the outbreak of the war the New York section of this society, foreseeing economic distress from possible shortage of dyestuffs, appointed a representative and politically non-partisan committee to report on the prerequisites of an adequate self-contained American dyestuff industry. The report, unanimously adopted by this, the largest of our local sections, recommended congressional enactment of protective duties amounting to 30 per cent. ad valorem and 7½ cents per pound specific on finished dyestuffs, one-half these amounts on intermediates, and an effective anti-dumping clause. The protective rates of this report formed the basis of the Hill bill, introduced in the House on the opening day of Congress by Representative Ebenezer J. Hill of Connecticut. In January, 1915, hearings were held on this bill, and there was presented the unusual sight of both producers and consumers urging the Ways and Means Committee to report the bill favorably. In spite of this unanimity, the report was not forthcoming. Public demand for such legislation, however, increased, and finally, after a conference between leading members of the controlling party in both the Senate and the House, with representatives of a large number of producers and consumers, a form of legislation was proposed by the congressional representatives which embodied the ad valorem rates of the New York section but reduced the specific duties by one-third, such specific duties to continue in full force for a period of only five years, after which they were to decrease 20 per cent. annually. Another feature was the proviso that if at the expiration of five years American dyestuff factories were not

producing 60 per cent. of the values (note this carefully) of American consumption, the specific duties were to be immediately and completely repealed by Presidential proclamation.

In spite of the lowered specific duties, this agreement, confirmed by authorized interviews from Washington, led to increased activity by many producers. It is not difficult to imagine, therefore, the amazed surprise which greeted the appearance of the dyestuff section of the general revenue bill, which, while it contained all of the above, showed one other totally unexpected feature, namely, the exclusion of indigo and alizarin and their derivatives from the benefit of the special duty of five cents per pound. Such an exception was fatal to the purposes of the bill. The ad valorem duty alone would not suffice to promote and encourage the manufacture of synthetic indigo and alizarin. No scientific or technical justification existed for discrimination against these two coal-tar dyes, which constitute 29 per cent. of the values of our consumption. Furthermore, the manufacture of at least 10 per cent. of dyestuffs could not for the present be attempted in this country because of existing foreign patents. Such considerations show that the possibility of expansion of the home industry within the five-year period to 60 per cent. of the values of consumption would be precluded by the terms of the bill itself. Consequently the duration of the special duty for any dyestuff would be restricted to the initial five-year period.

Evidently our lawmakers had surpassed the skill of the alchemists, in that they had demonstrated their ability to transform at least bricks into gold.

Pressed for a justification of the exclusion of indigo and alizarin, the chairman of the Ways and Means Committee made explanation on the floor of the House in a speech which by previous agreement was to conclude the debate. In this speech reference was made to the satisfactory character of the conference with the representatives of the industries; individual manufacturers were referred to as not desiring full protection for indigo and alizarin, and no justification on scientific or technical grounds was attempted. Then the dyestuff section of the bill was adopted by a party vote.

Immediately briefs were filed with the subcommittee of the Senate Committee on Finance, in charge of this section of the House bill. These briefs included letters and telegrams from the individuals referred to in the House debate refuting the statements made by the chairman of the Ways and Means Committee. Moreover, they pointed out clearly that the exception of indigo and alizarin was not in accordance with the original conference agreement and would prove disastrous to the entire industry. The Senate subcommittee was convinced, and accordingly struck from the bill the objectionable exceptions and in addition included natural indigo and coal-tar medicinals and flavors, additions in every sense logical, and giving to the classifications of the bill a thoroughly comprehensive character.

With the appearance of the printed hearings and briefs an interesting exhibit was made by the plea of a large consumer of indigo located at Greensboro, N. C. Not content with the discrimination given indigo in the measure as passed by the House, he urged its complete removal to the free list. No other consumer of indigo joined in this request. The subcommittee rejected his plea.

The completed section of the Revenue bill was then endorsed by the full committee and by the majority-party conference, and was adopted by the Senate. In the last hours of the session the section emerged from the joint conference of the majority-party conferees from both Senate and House with indigo and alizarin excluded from the special duty, and carrying along with them, as a sort of legislative by-product, medicinals and flavors. As no record is published of the proceedings of conference committees, we are left to assumptions as to the influence which prevailed to give the section its final form; but in the light of the history of the legislation and the personnel of the conferees, as published in the *Congressional Record*, it is not difficult to imagine whose influence was determinative in maintaining the discriminatory feature of the original House legislation, against which united protest had been made save for the voice of one consumer. The section in this disastrous form was then adopted by both Senate and House and is now the law.

Such is the answer of the present Congress to

the nation-wide (with one exception) call for adequate protective duties for the encouragement and upbuilding of this much-needed industry. The claims of this industry upon non-partisan legislative aid are reasonable because of initial difficulties in manufacture and the character of the competition to be met after the war. These claims are also commanding through the intimate connection of the industry with adequate munitions for our army and navy. Nevertheless, the measure professedly enacted for its upbuilding stands today stamped with the evidence either of the most specialized form of legislation for special interests, or of stupidity, as a tax placed upon the consumer without the benefit of an assured home industry; or of stubbornness in maintaining a wrong position rather than admit an error in judgment. I do not believe the citizens of this nation will set the seal of their approval upon such legislation.

Relations to National Thought.

In the light of the activities of the past year, let us ask ourselves, frankly, what is the position of chemistry today in the thought of the nation? No one can doubt that it occupies a much more prominent place. This is due in part to the superb response American chemists have given to the sudden call upon their resources and ingenuity; in part to the advertisement through the press of the important role of the German chemist in the industrial upbuilding of that nation, and to the constant repetition of the phrase that "modern war is largely a matter of chemistry and engineering."

Concrete evidence of increased appreciation of chemistry is furnished by the Second National Exposition of Chemical Industries, now in progress. Its exhibitors are more than double those of last year; its exhibits show many new products, born of the exigencies of the year; its underlying thought has been broadened to include a more systematic showing of the importance of chemistry to the wise use of natural resources, and its purposes have gained a far wider and more appreciative understanding by our people as a whole.

Again, we find evidence in the recent issuance of a special chemistry edition by a prominent trade journal, the *MANUFACTURERS RECORD*. The purpose of that unusual issue was not merely to emphasize the advantages of a great section of the country for the upbuilding of chemical industries, but of far greater importance, it sought to vitalize the thought of the people of that section as to the fundamental character of chemistry among the factors of industrial development.

Furthermore, it must be noticeable to all that slowly, but surely, an educational campaign is getting under way in the daily press and in periodical literature which will eventually result in the arousal of our people to a full comprehension of the value of chemistry as a national asset.

These are simply signs of the times. We cannot, however, feel that the national thought has as yet grasped in its entirety the all-pervading influence of chemistry so long as Cornell University, with its strong chemistry staff, must delay the replacement of its burned laboratory through lack of funds; so long as Johns Hopkins University, the cradle of American chemical research, must undergo such struggle for the means to erect a new laboratory on the beautiful new site of that institution; so long as members of Congress view chemists and chemical manufacturers as fit subjects for hard bargaining; so long as railway presidents feel that chemistry has no part in the development of the natural resources of the sections traversed by their lines; and so long as waste in any form is allowed to continue unheeded.

Further expansion of the relations of chemistry to the national thought involves—

First, continued educational effort through the press. Plans for such are being evolved, and these plans are meeting the quickened sympathy of the leaders of the press. Each of us must co-operate in this work. As a class, we are not qualified to write in popular style, and in the past we have not troubled ourselves very much about such matters; but we can furnish facts and sound opinion to those who have the work and responsibility of popular presentation, and we should stand ready, each in his own community, to share in such co-operative effort.

Second, an awakening of the financial interests of the

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country to the fact that the ways of chemistry are not mysterious, but applied common sense, which constitutes a sure guide.

Third, continued worthiness of our own efforts. This is our direct responsibility. Thoroughness of training, untiring zeal in work, aggressive conservatism in counsel, courage in new undertakings, independence in thought, generous co-operation, constant search for truth—these must surely lead us to that vantage ground where we can best serve this our country.

CEDAR INDUSTRY BENEFITING SECTIONS OF SOUTH.

Red Heart Logs Worked Up Into Furniture Parts, and Even Sawdust Finds Valuable Use.

By ALAN BROWNING, Hillsboro, N. C.

With the coming of good roads, and even ante-dating that time, there has sprung up in the red-land sections of the South an industry which is not only giving profitable employment to considerable labor, but is opening up hitherto unreckoned resources to the farmers and landowners. Reference is had to the cedar industry—the cutting and transporting of red heart cedar logs to mills to be cut into lumber. This cedar nets the farmer at the mill an average of \$8 per cord, some grades even more, depending on the freedom from knots and proportion of heart.

There is probably no wood in use in which there is less actual waste. The firsts or red heart quality is shipped away to the manufacturers, by whom it is made into different articles of household furniture of high quality and fancy price. The handsome \$50 metal-trimmed wardrobe, containing probably 100 feet of clear red-heart cedar, which adorns my lady's chamber, was only a few months previous standing on the red hillside of North Carolina or Tennessee, unnoticed and unadmired. The culls, streaked with red and white, find ready local sale around the mills for various uses, such as siding for outhouses, sheathing, etc., while the slabs make an excellent article of fuel, aromatic and of good burning quality, and which do not "sob" or become water-soaked.

For a time the question of disposing of the sawdust was a serious one with the mill men, as it had to be carted off or burned, either of which plans entailed trouble and expense, but within the past year or two a great quantity of sawdust is being utilized in making sanitary sweeping dusts, under various names. The sawdust, after being refined and combined with germicides, is sold in large quantities and at good prices. There has also been perfected a process of extracting the oil from this sawdust, which is claimed to be valuable and which is salable as polishing oils.

Improved farm machinery, better schools, better livestock and vehicles are some of the results brought to the favored sections by this newly-developed industry.

Cedar grows in large quantities in Virginia, North Carolina, Georgia and Tennessee, the latter State leading in its production. While enormous quantities have been cut within the past five years, there are great tracts yet untouched, many farmers holding for a stronger demand and higher prices.

A Handy and Useful Book.

Jas. H. Oliphant & Co., 61 Broadway, New York, and The Rookery, Chicago, have issued a small book called the "Earning Power of Railroads," compiled and edited by Floyd W. Mundy of the Chicago office. It considers earning power thoroughly and in detail, and discusses expenses for the various departments of railroad activity in an enlightening manner. Operating ratio, fixed charges, capitalization, etc., are also gone over completely and preliminary to the many tables which are included in the little volume. Much information is also presented concerning many of the companies, in addition to the statistical tables, making it valuable for reference in many ways. It contains over 500 pages, yet it is only half an inch thick, although bound in substantial morocco leather, and it could easily be carried in the pocket if desired.

American Chemistry in Action

THE CHEMICAL EXPOSITION IN NEW YORK. ONLY ONE SOUTHERN RAILROAD MET THE OPPORTUNITY TO EXHIBIT THE SOUTH'S RESOURCES TO THE CHEMICAL WORLD.

[Special Correspondence Manufacturers Record.]

New York, September 26.

The Second National Exposition of Chemical Industries, being held this week in the Grand Central Palace, is a thorough success in every feature.

Never before has there been gathered together such a representative and comprehensive exhibit of what America has done and is doing in chemical and allied industrial activities.

Practically every phase of chemical manufacture is represented, all the way from the deposits of raw materials to the finished product, and including the various equipment, machinery and accessories necessary for the different processes.

The exhibits impressively emphasize the fact that American firms can make not only all the needed chemicals for the industrial arts, but also all of the special machinery and devices required, no matter how intricate the product to be made. It is a splendid example of how the manufacturers of this country can meet unusual situations and provide the very things required which heretofore were thought impossible.

This exposition has demonstrated completely that we do not have to be dependent upon any outside sources for the required technical skill in developing processes and in designing and operating chemical plants and in building all of the special and peculiar machinery and equipment for such industries because our chemists and chemical engineers and our machinery manufacturers have proved by actual performance that they are fully equal to the occasion and are actually showing here what they have done.

No one can view these wonderful accomplishments without catching the vision of an America freed from dependence upon foreign supply for the many things in the chemical line which we have always heretofore thought to be absolutely unobtainable except from European manufacturers.

Our chemists have measured up in every way in the time of need and shown that they are fully able to match the chemists of the world, and that in research and development work they can accomplish the results that were always considered in the minds of the users of such products as beyond the possibility of achievement in this country.

We have found that we have scattered throughout the land raw materials that are adaptable to a wide range of chemical manufacture, and in connection with these are also available abundant possibilities for hydro-electric development from our streams that will supply every need for electrochemical and electrometallurgical industries.

These statements are fully borne out by the display here of products in which the resources have been utilized.

And no part of the country has shown greater promise as capable of supplying so many of the requirements for chemical manufacture than the South. Many instances are noted in products exhibited where the basic raw materials came from the South.

One of the most striking of these is the manufacture of fused silica products. There were only three concerns in the world making such products, one in England, one in Germany and one in Austria, those in the latter two countries making only products for home use and the English firm practically having the trade of the rest of the world. But an American firm is showing here a line of fused silica specialties that they are making, and they are using raw materials from West Virginia.

Another instance is in barium compounds, which the war cut off from New York manufacturers, who, after investigation, located the necessary raw materials in East Tennessee and built a special plant to supply his needs.

The products of a coal-tar dyestuff manufacturer in Tennessee; of benzol and toluol by-product plants in Alabama; of an explosive manufacturer in Virginia; of sulphur mines in Louisiana and Texas and salt deposits in Southwest Virginia and various raw materials from

Southern States are being exhibited by manufacturers, thoroughly establishing the claims of the South as an inviting field for chemical operation.

The hydro-electric possibilities of the South, which embrace about 5,000,000 undeveloped horse-power, are illustrated in an interesting exhibit from Tennessee by the Tennessee Power Co.

Although the opportunity was an unequalled one for Southern railroads to center attention in the resources of their various territories for chemical industries, but one is represented, that being the Carolina, Clinchfield & Ohio Railway. The management of this road was quick to grasp its possibilities in this line, and it has already in operation on its line plants for making dyestuff and chemicals, barium compounds, Portland cement, hydrated lime, mica, feldspar, quartz, wood pulp and several other chemical products. Its exhibit, in charge of its own chemist, not only shows products of these plants, but many valuable raw materials it has available for a wide variety of chemical products. This exhibit will unquestionably prove one of the wisest investments the Clinchfield has ever made, because it is attracting the special attention of visiting chemists.

Another very interesting Southern exhibit is that of the Tennessee Coal, Iron & Railroad Co. of Birmingham, Ala. This includes sections of its famous rails, from the bloom to the finished rail; samples of its various by-products from its modern recovery plants, such as crude and refined naphtha, crude naphthalene, sublimed naphthalene, crude, commercial and chemically pure benzol, toluol and ammonium sulphite and crude tar. Its recently developed basic phosphate, made from open-hearth slag, is exhibited and an entirely new product upon which the company has been experimenting, this being slag lime brick, made from granulated slag and hydrated lime and shown in five colors. On the walls are displayed photographs of its various plants and illustrations of its welfare activities.

The city of Baltimore is represented by a relief map of its splendid harbor, which strikingly emphasizes the facilities established here for manufacturing plants on deep water.

Both of the South's leading sulphur producers, the Union Sulphur Co. of Louisiana and the Freeport Sulphur Co. of Texas, are showing samples of their sulphur, which supply well-nigh all of the world's demands.

The United States Government is represented by the Bureau of Mines, showing mine rescue and safety appliances, and the Bureau of Standards, which has a display of unusually interesting testing equipment for all classes of materials and products.

The exposition was formally opened yesterday by addresses by Dr. Charles H. Herty, president of the American Chemical Society; Dr. Lawrence Addicks, former president of the American Electrochemical Society; Dr. Ira Remsen of Johns Hopkins University, and Thomas J. Keenan, secretary of the Technical Association of the American Pulp and Paper Industry.

Dr. Herty stressed the vital importance of working out some plan whereby the various chemical interests could co-operate to best advantage in the broad development of chemical industries, and emphasized that some action along this line must be taken to get the desired results.

Dr. Remsen reiterated the point made in his article in the special chemical issue of the MANUFACTURERS RECORD, to which he alluded, and said the expansion of the chemical industries must always depend for the fullest growth upon continued devotion to the science of chemistry.

In an interesting talk on the paper industry of this country, Mr. Keenan referred to the utilization of wood waste in the South, and on this subject said:

"Attention may be called to a promising development in the Southern States through the application of chemistry and chemical engineering to the recovery of paper fibers from waste wood. We are now importing a special grade of pulp, and the so-called Kraft paper, made from it, to the amount of some 60,000 tons annu-

ally. Immense quantities of yellow pine waste lumber are available in Florida, Georgia, Louisiana and other Southern States for the manufacture of pulp by the sulphate process, which yields the strong brown wrapping paper called Kraft.

"It is estimated that the waste from yellow pine lumbering operations alone is sufficient for the manufacture of 10,000 tons of this paper a day. A beginning in the development of this industry has been made in the South, which is expected to make us economically independent of other countries so far as this class of paper is concerned."

Unusually attractive features of the exposition are the moving pictures, shown every afternoon and evening, illustrating the processes of manufacturing a wide range of products. Acknowledgment is made to the Bureau of Commercial Economics for their collaboration in this program. These pictures included the following:

Making of Black Powder.
Manufacture of Iron and Steel Tubing.
Manufacture of Fertilizers.
Mining and Manufacture of Iron.
Manufacture of Silk.
Making of Blotting Paper.
Silver Mining.
Manufacture of Varnish.
Asphalt (Barber Asphalt Co.).
American Chemical Society, April, 1916, Meeting. Leaving Danville, Ill., Chamber of Commerce Building.
Industrial Plants on the Clinchfield Route (Carolina, Clinchfield & Ohio Railway).
Bureau of Mines.—Iron Mining Operations (four parts); Manufacture of Coke; Mine to Molder (three parts); Safe Method of Bituminous Coal Mining (two parts); Mining Magnetic Iron Ore (two parts); The Shooting of the "Lake View Crusher"; The Manufacture of Portland Cement (two parts); Zinc Mining, Milling and Smelting (four parts); Dredge Gold Mining; Copper Mining, Milling and Smelting (five parts); Mining and Extraction of Radium from Carnotite Ore (two parts).
Westinghouse Electric & Manufacturing Co.
Mining and Smelting of Copper (United States Smelting Co., Inc.).
Motor Manufacture (General Electric Co.).
Distillation Apparatus (E. B. Badger & Sons Co.).
Filtration of the City Water Supply and Disposal of the City Sewage, City of Baltimore.
Manufacture of Paper.
Water Powers on the Pacific (Great Western Power Co.) (three reels).
Petroleum from a Mexican Oil Well, accompanied by discussion by I. C. White, State Geologist, West Virginia.
Making of Fine Tools.
Dynamiting the Farm with Profit.
First Aid in the Home.
Sands That Serve.
Time from the Stars.
Manifold Uses of Concrete.
Do It Electrically.
Telling the Forest.
Safety First.
Light from the Rocks.
Striking a Light—Matches.
Irrigation in Southern Alberta.
Queen of Yuma—Water Power.

Altogether there are 187 exhibits, covering two floors of the big exposition hall, and it has been remarked by many of the visiting chemists that everything is shown for every branch of the chemical industry, ranging from the most delicate and precise instruments to great, heavy iron tanks and other machinery that must be made of special materials and so prepared they will resist the destroying effect of the different chemicals to be made.

To attempt to describe this wonderful array of exhibits would require far more space than is available, but some idea of the extensive range of products can be gained from the following list of exhibitors:

Abbe Engineering Co., New York City.
Abb, Paul O., New York City.
Alberene Stone Co., New York City.
American Apparatus Corporation, New York City.
American Chemical Society, New York City.
American Electrochemical Society, New York City.
American Coal & By-Product Coke Co., Chicago.
American Institute of Mining Engineers.
American Transformer Co., Newark, N. J. (With Research Corporation).
American Synthetic Color Co., Inc., Stamford, Conn.
American Synthetic Dyes, Inc., New York City.
Angel & Co., H. Reeve, New York City.
Arnold Hoffman & Co.
Baker & Adamson, New York City.
Badger & Sons Co., E. B., Boston, Mass.
Baker Chemical Co., J. T., Phillipsburg, N. J.
Barrett Company, The, New York City.
Barber Asphalt Paving Co., Philadelphia, Pa.
Bausch & Lomb Optical Co., New York City.

Beach-Russ Company, New York City.
Beckers Aniline & Chemical Works, W., Brooklyn, N. Y.
Belghley Electric Co., Cleveland, O.
Benzol Products Co., New York City.
Bethlehem Foundry & Machine Co., South Bethlehem, Pa.
Bristol Company, The, Waterbury, Conn.
Brown Instrument Co., Philadelphia, Pa.
Buffalo Foundry & Machine Co., Buffalo, N. Y.
Butterworth-Judson Corporation, New York City.
Carborundum Co., Niagara Falls, N. Y.
Carrier Engineering Co., New York City.
Celluloid Zapon Co., New York City.
Chadwick-Boston Lead Co., Boston, Mass.
Chemical Catalog Co., New York City.
Chemists' Club, The, New York City.
Central Foundry Co., The, New York City.
Castner Electrolytic Alkali Works, Niagara Falls, N. Y.
Chemical Co. of America, New York City.
City of Baltimore, Baltimore, Md.
Carolina, Clinchfield & Ohio Railway, Johnson City, Tenn.
Contact Process Co., Buffalo, N. Y.
Codd Company, E. J., Baltimore, Md.
Condensite Co. of America, Bloomfield, N. J.
Corn Products Refining Co., New York City.
Corning Glass Works, Corning, N. Y.
Coatesville Boiler Works, New York City.
Day Company, J. H., New York City.
DeLaval Separator Co., New York City.
Denver Fire Clay Co., Denver, Colo.
Detroit Range Boiler Co., Detroit, Mich.
Devine Company, J. P., Buffalo, N. Y.
Dorr Company, New York City.
Dow Chemical Co., Midland, Mich.
Downington Manufacturing Co., East Downingtown, Pa.
Driver-Harris Wire Co., Harrison, N. J.
DuPont, De Nemours & Co., E. I., Wilmington, Del.
Durlon Castings Co., New York City.
Department Docks and Meadows, City of Newark, N. J.
Edison, Thos. A., Orange, N. J.
Elmer & Amend, New York City.
Electro Bleaching Gas Co., New York City.
Electron Chemical Co., Portland, Maine.
Electrolytic Zinc Co., Inc., New York City.
Electro Chemical Co., The, Dayton, O.
Elyria Enamelled Products Co., Elyria, O.
Fabra Company, Ltd., The, New York City.
Foxboro Company, The, New York City.
Foote Mineral Co., Philadelphia, Pa.
Freeport Sulphur Co., New York City.
Franco-Swiss Colours Co., W. V. N. Powelson, New York City.
Fuller Engineering Co., Allentown, Pa.
Garrigues Company, Chas. F., New York City.
Gelsinger Regulator Co., New York City.
General Bakelite Co., New York City.
General Chemical Co., New York City.
General Electric Co., Schenectady, N. Y.
German-American Stoneware Co., New York City.
Glens Falls Machine Works, Glens Falls, N. Y.
Great Western Power Co., San Francisco, Cal.
Golden Chest Mine, New York City.
Greiner Company, Emil, The, New York City.
Great Western Silica Co., Tacoma, Wash.
Hardinge-Conical Mill Co., New York City.
Harrison Bros. & Co., Philadelphia, Pa.
Hemingway, Frank, Inc., New York City.
Herold China & Pottery Co., Golden, Colo.
Hayward & Co., S. F., New York City.
Holz, Herman A., New York City.
Hood Brick Co., B. Miffin, Atlanta, Ga.
Hooker Electrochemical Co., New York City.
Huff Electrostatic Sep. Co., Boston, Mass.
Huyck & Sons, F. C., Albany, N. Y.
Industrial Research Corporation, New York City.
Industrial Research Co., Cleveland, O.
International Equipment Co., Boston, Mass.
International Glass Co., Millville, N. J.
Kelly Filter Press Co., Salt Lake City, Utah.
Kieselguhr Co. of America, New York City.
Kleinschmidt & Co., F., Buffalo, N. Y.
Klipstein & Co., A., New York City.
Koppers Company, H., Pittsburgh, Pa.
Koven & Bro., L. O., Jersey City, N. J.
Laboratory Supply Co., The, Columbus, O.
Lead Lined Iron Pipe Co., Wakefield, Mass.
Leeds & Northrup Company, The, Philadelphia, Pa.
Lehigh Car, Wheel & Axle Works, New York City.
Lehigh Foundry Co., Fullerton, Pa.
Life Saving Devices Co., New York City.
Lehigh Stoker Co., Fullerton, Pa.
Little, Arthur D., Inc., Boston, Mass.
Little, Arthur D., Ltd., Montreal.
Lungwitz, Emil E., New York City.
Luzerne Rubber Co., Trenton, N. J.
Madero Bros., Inc., New York City.
Manufacturers Record, Baltimore, Md.
Marden, Orth & Hastings Company, New York City.
Mathieson Alkali Works, Providence, R. I.
Merck & Co., New York City.
Metallurgical & Chemical Engineering, New York City.
Metals Disintegrating Co., New York City.
Mine & Smelter Supply Co., The, New York City.
Mississippi River Power Co., Keokuk, Iowa.
Monsanto Chemical Works, St. Louis, Mo.
Mott Iron Works, J. L., New York City.
Multi-Metal Sep. Screen Co., New York City.
Nash Engineering Co., South Norwalk, Conn.
National Aniline & Chemical Co., New York City.
National Gum & Mica Co., New York City.
Newport Chemical Works, Inc., New York City.
Niagara Alkali Co., New York City.

Nitrogen Products Co., Providence, R. I.
Norton Company, Worcester, Mass.
Ohio Pottery Co., Zanesville, O.
Palo Company, The, New York City.
Patterson-Allen Engineering Co., New York City.
Paper, Inc., New York City.
Paper Trade Journal, New York City.
Pennsylvania Salt Manufacturing Co., Philadelphia, Pa.
Pfaudler Company, The, Rochester, N. Y.
Precision Instrument Co., Detroit, Mich.
Process Engineers, Ltd., Montreal, Quebec.
Product Sales Co., The, Baltimore, Md.
Pyroelectric Instrument Co., Trenton, N. J.
Prest-O-Lite Company, Inc., The, Indianapolis, Ind.
Pittsburgh Testing Laboratory, Pittsburgh, Pa.
Raritan Copper Works, Perth Amboy, N. J.
Raymond Bros. Impact Pulverizer Co., Chicago, Ill.
Research Corporation, New York City.
Roessler & Hasslacher Chemical Co., New York City.
Ruggles-Coles Engineering Co., New York City.
Richmond Waterproof Products Co., New York City.
Schaeffer & Budenberg Mfg. Co., Brooklyn, N. Y.
Schau & Uhlinger, Inc., Philadelphia, Pa.
Schutte & Koerting Company, Philadelphia, Pa.
Scott & Co., Ernest, Fall River, Mass.
Scientific Materials Co., Pittsburgh, Pa.
Semet-Solvay Company, Syracuse, N. Y.
Sharples Specialty Co., West Chester, Pa.
Shriver & Co., T., Harrison, N. J.
Seydel Manufacturing Co., Jersey City, N. J.
Sido Company of America, The, New York City.
Solvay Process Co., The, Syracuse, N. Y.
Sowers Manufacturing Co., Buffalo, N. Y.
Squibb & Sons, E. R., New York City.
Stamford Manufacturing Co., New York City.
Standard Aniline Products, Inc., New York City.
Stevens-Aylsworth Company, New York City.
Stuart & Peterson Company, The, Burlington, N. J.
Stone & Webster Engineering Corporation, Boston, Mass.
Sturtevant Mill Co., Boston, Mass.
Sweetland Filter Press Co., The, Brooklyn, N. Y.
Swenson Evaporator Co., Chicago, Ill.
Swiss Colours Co., Inc., New York City.
Society of Chemical Industry, New York City.
Taylor Instruments Companies, New York City.
Technical Association of Paper & Pulp Industry.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Tennessee Power Co., E. W. Clark & Co., Management Corp., Columbus, O.
Textile Colorist, Philadelphia, Pa.
Thermal Syndicate, Ltd., The, Brooklyn, N. Y.
Thwing Instrument Co., Philadelphia, Pa.
Toch Bros., New York City.
Tolhurst Machine Works, Troy, N. Y.
Takamine Laboratory, Inc., New York City.
Uehling Instrument Co., New York City.
Union Sulphur Co., New York City.
United Lead Co., New York City.
United States Smelting Co., New York City.
United States Bureau of Mines, Washington, D. C.
United States Bureau of Standards, Washington, D. C.
United Gas Improvement Co., Philadelphia, Pa.
United Cast Iron Pipe & Foundry Co., Burlington, N. J.
Universal Fiber Co., Trenton, N. J.
Valley Iron Works, Appleton, Wis.
Virginia Smelting Co., Boston, Mass.
Weiller Manufacturing Co., New Brunswick, N. J.
Werner & Pfleiderer Company, New York City.
Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.
Williamsburg Chemical Co., Inc., Brooklyn, N. Y.
Whitall Tatum Company, Millville, N. J.
Zapon Leather Cloth Co., New York City.
Zarembo Company, Buffalo, N. Y.

WM. H. STONE.

Development Work Creating Opportunities for Wealth in Florida.

Between \$9,000,000 and \$10,000,000 has been invested in and authorized for roads, canals, drainage operations and harbor work by the State, county, cities and private corporations in the county of West Palm Beach, Florida, since the county was formed in 1909. According to figures furnished the West Palm Beach Sun by L. G. Biggers, managing secretary of the Board of Trade of West Palm Beach, \$4,100,000 was expended by Florida for canals from Lake Okeechobee to tide-water, \$2,712,250 by Palm Beach county for road improvements, and \$2,700,000 have been expended or authorized for other drainage work, canals, good roads, etc.

It is stated that during the year ending July 1, 1914, on less than 10,000 acres of land in Palm Beach county \$4,000,000 worth of vegetables and fruits was produced. With 1,600,000 acres of similar land in the county yet to be put into cultivation, a bewildering prospect of possible wealth production is presented by Secretary Biggers in his forecast of conditions in Palm Beach county with the cultivation of all the land on an intensive scale.

Over \$50,000,000 a Year Expended Upon Southern Highways

[Special Correspondence Manufacturers Record.]

Washington, D. C., September 25.

One of the most illuminating examples of the remarkable development of the South in recent years is disclosed in official statistics recently made available to the MANUFACTURERS RECORD showing the improvement in the roads of the Southern States.

During the past 12 years the annual expenditures on the rural roads and bridges in the United States have increased from about \$80,000,000 to \$282,000,000, or an increase of more than 250 per cent.

That the South is doing more than its relative share in this great improvement work is shown by the fact that, while in 1904 the expenditures for rural improvement in 15 Southern States aggregated \$10,966,038, this sum has been increased until in 1915 the same States expended a total of \$50,244,554 toward the same ends, or an increase in those sections of more than 458 per cent.

In 1904 the total cash expenditures on roads in Alabama was \$378,040; in 1915 the expenditures had jumped to \$4,283,207. The total mileage of improved roads in Alabama at the beginning of this period was 1720; in 1915 the total mileage of improved roads was 5915, or more than three times as great as 12 years before.

Arkansas in 1904 expended \$681,934 in road improvements. In 1915 the State outlay in this direction amounted to \$2,803,000. The mileage of improved roads in Arkansas has increased from 236 in 1904 to 1200 in 1915.

Expenditures for road improvement in Florida from 1904 to 1915 show a gain of over 1000 per cent., the amount having been advanced from \$437,184 to \$5,501,135. These expenditures brought the total length of improved roads in the State up to 3500 miles in 1915, as compared to 885 miles 12 years previously.

In 1904 expenditures on improved roads in Georgia were \$894,936, which had increased in 1915 to \$3,700,000, by which time the mileage of surfaced roads had grown to 13,000—a remarkable advance over the 1634 miles of improved roads that existed in 1904.

Kentucky road expenditures in 1904 were the only figures then in excess of \$1,000,000 in any of the Southern States with the exception of Texas, amounting at that time to \$1,161,194. This had increased in 1915 to \$3,122,430, or nearly three times as much as the outlay 12 years earlier, with an increase in the number of miles of improved roads in the same period from 9486 to 13,000.

The comparison of expenditures in 1904 and 1915 for Louisiana road work is of an exceptionally gratifying character. In the former year Louisiana spent \$354,452, which sum had been increased in 1915 to \$3,569,709, while in the same period the length of improved roadway, given as 34 miles at the beginning, had reached to 2250 miles in 1915.

Maryland is one of four Southern States to devote as much as \$5,000,000 toward improving its roads in 1915; the exact figures are \$5,630,000, as compared to \$873,471 spent for the same purpose in 1904. Maryland's improved highways within the period have increased from 1570 miles to 2950 miles.

In Mississippi the expenditures for improved road work jumped from \$339,669 in 1904 to \$2,900,000 in 1915, bringing the total length of surfaced roads in that State to 2500 miles, as compared to 149 miles in the year first mentioned.

North Carolina expended \$624,381 in road work in 1904, which was increased to \$5,510,000 in 1915. This State has now 6500 miles of improved public roads, as against 1259 miles in 1904.

For the 12 years covered by the statistics furnished, Oklahoma registered an advance in its expenditures from \$447,000 to \$3,410,000, which has given to the State 300 miles of surfaced highways, whereas not a mile was in existence within its boundaries in 1904.

South Carolina's public road expenditures rose from \$334,082 in 1904 to \$1,000,000 in 1915. Within the same period the total mileage of improved roads in the State increased from 1878 to 3500.

The road expenditures for Tennessee show a gain of

nearly \$3,000,000, having risen from \$629,141 in 1904 to \$3,503,500 in 1915. The same period gave an increase in improved highways that brought the mileage from 4285 to 8625, or more than double.

As might naturally be expected, Texas is now spending nearly twice as much yearly in road improvement as any of the other Southern States approaching most nearly in their annual outlay, her total for 1915 being \$9,500,000, or a gain of nearly \$7,000,000 over similar expenditures for 1904. Within the same period the improved highways in the State have increased in length from 2128 miles to 12,000 miles.

In Virginia the figures for road work expenditures increased from \$687,751 in 1904 to \$4,018,399 in 1915, by which year the length of improved public roads in the State had risen from 1000 miles to 4760 miles, out of the total of 53,388 miles for all public rural roads in the State.

One of the most striking developments in regard to the improvement of American roads in recent years has been the increased expenditures entered into by State governments. This has been well shown in the comparisons already given for the Southern States, in which the percentage of increase has generally been more marked than in other portions of the country. The greatest expense incurred by any State for its road improvement in 1904 was \$4,887,266 by Pennsylvania, Ohio running a close second with an outlay in that year of \$4,776,318. As already indicated, these figures are exceeded by the 1915 expenditures of Florida, Maryland, North Carolina and Texas, and are closely approached by most of the remaining Southern States. It will be further observed that Maryland and Texas combined are now spending more each year for road improvement than was spent by all the Southern States together in 1904. For 1915 the greatest State expenditures for road improvement were made by New York and California, the figures being \$24,255,648 and \$20,753,281. Other States having an annual road expenditure in excess of \$10,000,000 are Indiana, Iowa, Michigan, Ohio and Pennsylvania, while the figures for Texas and Wisconsin fall but slightly below that amount.

Tracing the records of legislation back to the first State-aid law, it is found to have been passed by the New Jersey Legislature in 1891. By June 1, 1916, all but four States—Georgia, Indiana, South Carolina and Texas—had some form of State engineering or highway department. Through the instrumentality of these State highway departments the 48 States of the country had expended to January 1, 1916, a grand total of \$265,350,824 of State moneys for rural road construction, maintenance, and the administration of the controlling departments.

Under these State methods of control and expenditure a total of 50,402 miles of roadway have been constructed. These include about 40,000 miles of surfaced roads, for which the expense has been borne by both State and local funds. State funds have also been applied to a considerable extent to the maintenance of systems of State and State-aid roads, which at the time of the estimate last year amounted to 51,769 miles. Of the 50,402 miles of State and State-aid roads mentioned, 12,437 miles, or nearly one-fourth of the whole, were constructed in 1915.

As has already been shown by extracts from the official figures, the burden of road work carried by the various States has increased enormously in recent years. The total road and bridge expenditures are now more than three times as great as they were in 1904. Of the present sum, the amount secured through local bond issues is reported to have increased about eleven times and that from the State funds twenty times.

Another point of interest brought out by the official report is that the remarkably rapid increase in American road expenditures in recent years is not all due to increased activity in road construction. Much has gone to better road construction, rather than to increased mileage of an inferior character. This call for better construction has necessitated more expensive types, while changed traffic conditions, especially as re-

gards motor travel and transportation, have materially increased the cost of maintenance. Thus far the main motor traffic is largely concentrated on comparatively few roads, but the exigencies of modern conditions are already demanding that there be taken into account everywhere the requirements of the 2,500,000 motor vehicles now traveling over the public roads at present having a total length in the United States of about 2,452,000 miles outside of incorporated town and city limits, and of which about 277,000, or more than 11 per cent., have been improved with some sort of surfacing.

In the present increase of surfaced roads, which is going forward at the rate of about 16,000 miles each year, it will be seen that the South is acquiring its share. In fact, the character of the road work that has been done generally in the Southern States has been of the improved types. This not only stands for durability and permanency, with consequent benefits to the existing population of these States, but also means a steadily increasing participation in the motor travel of the country, which, diverted from the older highways into the new good roads of the Southern States, will help bring the country at large into a better acquaintance with the South and an enlarged understanding of the many opportunities which it has to offer.

FLORIDA'S EXPANDING LIVESTOCK INDUSTRY.

Iowa Cattleman Buys 10,000 Acres of Land in Decatur County—Large Influx of Northern Farmers Predicted.

Jacksonville, Fla., September 23—[Special.]—Mark R. Tennant of Sioux City, Iowa, has purchased 10,000 acres of land in De Soto county, near Fort Myers, Florida, which he will begin to stock at once with high-grade cattle.

Mr. Tennant brought five blooded Aberdeen-Angus bulls with him from Sioux City, and will breed them to native cows now on the range. He declares that in his estimation Florida is destined to become the greatest cattle-raising and marketing State in the Union, and predicts a large influx of Northern and Western farmers who will enter the stock-raising business.

Increasing Use of Pipe and Tubes.

Nowadays the uses of metal pipe are numbered by the thousands. Among such uses may be mentioned agricultural implements, automobile parts, bedstead and hospital furniture, architectural iron work, grill work, etc.; building columns, refrigerating machinery, dry-kiln apparatus, elevator cars, fence posts, flag poles, wheelbarrows, elevator grain spouts, irrigation systems, safety ladders, loom cylinders, warship masts, lighting and high-tension poles; electric wiring conduits, speaking tubes, lunch counter stools, signal towers, etc.

Coincident with the extended use of tubular products, states the National Tube Co. of Pittsburgh, has been not only greatly increased tonnage, but also a change in material. Fifty years ago it is stated practically all of the screw-joint pipe was made from wrought iron, but the invention of the Bessemer and the open-hearth processes of making steel have caused a decided change in the material. A special statistical bulletin issued by the American Iron and Steel Institute of New York shows that the production of iron skelp decreased from 452,797 tons in 1905 to 262,198 tons in 1915, while the steel skelp production increased from 639,198 tons in 1905 to 2,037,266 tons in 1915, or an 88.6 per cent. increase compared with the decline of 11.4 per cent. in the iron skelp production during the same period.

The history of the widely ramifying uses of pipe reads almost like a romance, and inasmuch as the National Tube Co. has recently announced plans for building a new plant at Gary, Ind., having a capacity of 500,000 tons per year, it would appear that the uses of metal pipe have by no means reached their limit.

The Dixie Cotton Mills of Lagrange, Ga., has been incorporated with a capitalization of \$500,000. William H. Wellington of Boston, Horace S. Sears of Weston, Mass.; George H. Lanier of Lanett, Ala., and others are the incorporators.

How They Missed \$36,000,000

TEXAS OWNERS REFUSED TO TRADE IRON ORE FOR BETHLEHEM CO.'S STOCK.

"Yes, it is a fact that myself and associates turned down an offer by Mr. Schwab of \$4,500,000 worth of Bethlehem Steel stock on a basis of one-third par value in exchange for our iron-ore properties in East Texas."

So confessed Col. L. P. Featherstone of Beaumont, Tex., to the MANUFACTURERS RECORD the other day, on the occasion of a visit the Colonel made to Baltimore. A story had been told to the effect that Colonel Featherstone and his partners had been given the chance to clean up millions through ownership of Bethlehem, and the story's verification was sought—and obtained.

"It is very true that if we had made the trade and had then held on till the price of Bethlehem reached 600 we could have realized about \$36,000,000 for our ore beds. But we are not wasting any time mourning over that fact," Colonel Featherstone asserted. "Our land holdings, which we own outright, contain between 100,000,000 and 150,000,000 tons of high-grade brown ores, and we propose to carry out our original plans for the development of an iron and steel industry in Texas. If Schwab's plans had included the building of an iron and steel plant in Texas I should have urged my associates to close with him on a basis of \$2,000,000 valuation, which I believe would have been possible, and that would have given us \$6,000,000 worth of the stock, par value. Schwab, however, simply wanted the ore, to be shipped out of the State, and so I didn't oppose the stand of my associates.

"I believe in Schwab, nevertheless. I rode with him in his private car from the ore fields to Galveston. He knows steel, and he makes you believe in him. He pictured then the growth of the Bethlehem company, and I believed he could and would build up a great steel-making plant.

"But Bethlehem stock wasn't in demand in those days—this was in 1910—and when my partners asked what we could sell our stock for, if we made the trade, I was forced to concede that we would not be likely

to get an offer from anybody for any large amount of it.

"All right, then we won't trade," was the declaration. "We have our ore, and we'll keep it till we can get real money for it."

"It has been a struggle with us, to be sure, but we have been steadily working out our plans. The property is all paid for, and we have built a branch railroad into the ore fields at a cost of something over \$800,000, and it has been paid for, too. This line connects with the Santa Fe system, and another line is in contemplation to a connection with the Missouri, Kansas & Texas road.

"Through the intercoastal canal we can bring coke from the Birmingham district, and can also get Pennsylvania and Kentucky coke via the Ohio and Mississippi rivers and the canal from New Orleans, at rates that will enable us to make pig-iron at a very low cost price.

"We have a land-locked harbor at Beaumont, with 26 feet of water minimum through the canal to the sea. So advantageous is the situation for iron and steel making that we have urged the Government to locate its armor plant at Beaumont, and have offered to donate 1,000,000 tons of iron ore to the plant if located at Beaumont or in the ore fields, if that site should be preferred by the Government.

"While we would be very glad, indeed, to secure the Government plant, and believe that for all the reasons the MANUFACTURERS RECORD has urged in favor of a location away from the Atlantic seaboard, Beaumont or the East Texas ore fields would be an eminently proper place for it, yet our plans and purposes are in no degree dependent on anything the Government may or may not do. We believe we have one of the greatest undeveloped industrial possibilities there is in the United States, and we will plow right ahead until we get an iron industry in operation, to which will be added a steel plant in the course of time."

Getting Ahead of the Boll-Weevil in a Georgia County.

Americus, Ga., September 21—[Special.]—Sumter county is fighting the boll-weevil in a manner never before attempted in the history of campaigns—before the weevil reaches here and before it begins its wide destruction. The first boll-weevil was discovered in this county several months ago, but the crops of 1916 had gained sufficient headway to outstrip any damage which the pest might do.

The fight here is in direct charge of Agricultural Agent J. G. Oliver, with the full co-operation of the Americus and Sumter County Chamber of Commerce, the State Board of Entomology, the State College of Agriculture and the agents of the Federal Government. The newspapers are carrying on an unceasing campaign, with a large amount of space given over to the means and suggestions of fighting the menace.

Agent Oliver has just completed a series of meetings in every settlement in Sumter county, where farmers and business men have come together to discuss, plan and prepare. A new feature was two meetings held for the colored farmers.

A climax to these meetings is a personal letter to every planter in the county, signed by bankers, business men, warehousemen, merchants, sent under the private envelope of the various concerns. The personal touch has drawn the farmer to the business man, and they are co-ordinating their interdependent interests.

A great meeting, to occupy the greater portion of a day, is being arranged, when State and Federal agents will be present to speak and exhibit the work of the weevil, and what to do to be saved.

As a real death strike at the weevil the three wholesale grocery houses of Americus—the Americus Grocery Co., the Glover Grocery Co. and Moreland-Jones Company—will have in operation by November 1 a syrup and feedstuff mills, to work up every stalk of cane and sorghum raised in the county, together with the surplus oats, corn and velvet beans. The plant will soon be in operation, with the aim to have a fully-equipped brick building with modern machinery within the next year.

SOUTHERN RAILWAY CO.'S NEW OFFICE BUILDING, WASHINGTON, D. C.



Architect's drawing of new office building of the Southern Railway at 13th street and Pennsylvania avenue, Washington, D. C., construction of which has begun. The building will be 120x90 feet, nine stories

high, of fireproof construction, with steel frame, slag roof, tile floor arches, and will cost about \$400,000 for building alone. It will be equipped with steam heat and electric elevators.

Plans and specifications were prepared by Milburn, Heister & Co., and general contract awarded to James L. Marshall, both of Washington. Construction is to be completed by April 1, 1917.

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Million-Dollar Apple Crop for One West Virginia County

LEARNING THE LESSON OF CAREFUL PICKING, BETTER PACKING AND
WISER MARKETING—CO-OPERATION BY ENLIGHTENED
RAILWAY MANAGEMENT.

[Special Correspondence Manufacturers Record.]

Martinsburg, W. Va., September 18.

This fine old town, commercial capital of the "Eastern Panhandle" of West Virginia, within a hundred minutes' ride of the National Capital, is prospering this season as never before in its history. Never before has there been so large a proportion of jobs to men capable of holding jobs; never before has labor been so well paid; never has the agricultural element which forms the real basis of the town's prosperity found itself in possession of so much money or its equivalent.

In the production of apples Berkeley county stands easily first in West Virginia, and this is her banner year in both quantity and quality. It is said among apple experts here that the crop this year will total 350,000 barrels, of which 300,000 barrels will be strictly fancy in quality. The money return will be more than \$1,000,000. In size, coloring and flavor this year's apples average far better than those of any previous year. And when that is said there is nothing that can be added in the way of commendation, for this is the home of the perfect apple—none better grows from the soil.

In addition to the extra quality of the fruit, the growers are this year enjoying an extra profit from wider publicity, better packing and more judicious marketing. A few years ago the West Virginia apple had no distinction in any market. The products of other orchards were known as such. People called for Hood River apples, or for New York apples, or apples from such and such a section. But the West Virginia apple, even in the markets of Washington and Baltimore, was only an apple. And because of careless picking and packing it really deserved no special consideration. This year all that is changed. For several years the growers have exercised care and discretion in handling the fruit. It has been carefully graded and carefully packed, and has come into a distinction peculiarly its own. It has begun, as you might say, to hold up its head among the apples from elsewhere, and people are coming to know its worth. The consequence is that it is now in demand all over the country.

A shipper who handles a large quantity of apples each year showed me his mail for two days. It embraced letters from north, south, east and west in this country, and from Italy, Holland and Brazil. The Holland firm from whom a communication had been received wrote that a special agent would call to see the Martinsburg man, and if conditions seemed to him to be right a large number of apples would be taken and a plant established for handling them. The Brazilian firm wished to make arrangements to handle the apple output of the whole section. The letters from the South and the central West all embraced orders, most of them of good size.

The Baltimore & Ohio Railroad, whose main line runs through this city and county, has been helpful in bringing about improved conditions in the fruit business of this section and other portions of the State reached by its lines. Among other things, it has published a pamphlet giving the name and postoffice address of every commercial apple grower on its lines in West Virginia, together with the name and address of every buyer or commission merchant dealing in apples in the towns and cities reached by any of its lines. Another pamphlet gives the names and addresses of those growing peaches or interested in their sale. The road has also undertaken to aid in advertising the apples grown hereabouts. Among other methods, it has adopted the one of preparing boxes the same size as the boxes ordinarily used for packing apples, but only deep enough for one layer, and having them properly packed with apples of good size and color, for display in the windows of its various ticket offices throughout the country. This is but one of the many things this road, since passing under the management of the men now in control of its destiny, is doing to help the people along its

line build up business to make themselves prosperous and to create traffic for its own hauling.

Both apples and peaches in this county have reached a high state of perfection this year, and have brought and are bringing prices proportionately high. While Berkeley county has not so many and such large peach orchards as some of the neighboring counties in which the mountains reach higher altitudes, there are many acres planted to peaches, and the yearly return means much to their owners. The peaches of Berkeley county this year have been of a very fine quality, and the yield has been large, whereas in the larger peach counties the crop has been smaller and the quality not so good as the average. In consequence this county has shipped more than 100 carloads, and they have brought top price in every market they have entered. Many thousands of dollars have been brought to the pockets of the Berkeley county peach growers by this year's crop.

The planting of apple orchards, which had fallen off for two or three years, received a new impulse this year, and many trees were set out during the last planting season. Even more will be set out during the coming season. I am informed, indeed, that more orders for trees have been placed during the last 60 days than for the preceding two years. Orchards are being cultivated more carefully also, and the yield in a few years will be very much larger than it now is.

Several years ago I wrote in an article on Berkeley county apples about Thatcher Brothers' orchard of 13 acres, from which one crop had been sold for \$6500. The owners at that time had a young orchard of 20 acres not yet in bearing. Two or three days ago I met one of the brothers here and asked him about this year's crop from the two orchards, 33 acres. He said it would bring him and his brother \$15,000. They have a good farm, which they cultivate and manage well, making their general farming pay their living expenses and the upkeep of the whole place, including the orchards, so that their apple money is all clear. I mention this as a sample of what can be done on a Berkeley county farm by men "with the know-how." Not all who try are able to do as well, but industry and intelligence applied to the orchard business here will unquestionably bring satisfactory results.

General farming and stock raising are profitable also when carried on with industry and intelligence. The soil is well adapted to growing the grains and grasses, there is water in abundance, and the climate is moderate, with temperature neither very warm nor very cold. There is excellent trucking soil also, and the ease with which products can be carried to the country's best markets makes the section one of peculiar attraction to the market gardener and truck grower. Bluegrass is indigenous, and fine pasture lands abound on every hand. Berkeley cattle and sheep are noted for their quality, and there are many herds and flocks of high grade to be encountered throughout the county.

Lands are cheap, and can readily be procured on easy terms by those who wish to engage in any of the various branches of husbandry. There are many miles of good roads in the county, and the public schools are of excellent character.

Martinsburg is the home of a number of knitting mills and other manufacturing establishments, none of which are very large, but the aggregate of whose employes form a very considerable proportion of the city's population. These mills and factories are running at full capacity, with more orders than they can fill, their employes are paid good wages, and there is work in sight for many months ahead.

Throughout the county, some of them almost within the corporate limits of the city, are half a dozen large limestone quarries, from which thousands of tons of limestone are being taken each working day. The average total shipments run about 150 cars per day, and the demand for the output is such that each quarry could

dispose of double the amount it now takes out, but finds increase impossible because of the lack of men. There are now employed in these quarries from 2000 to 2500 men, and there is easily work for 1000 to 2000 more. The greater part of the stone taken from these quarries goes to the big iron furnaces in and around Pittsburgh and elsewhere, to be used as flux in making iron. Some of the larger iron-making concerns, notably the Jones & Laughlin mills and those of the United States Steel Corporation, have their own quarries here, but some take the output of the independent concerns.

The limestone found in this section is remarkably pure—much of it running 99 per cent. pure lime—which admirably adapts it to fluxing purposes, and the demand for it is widespread and continuous. Not all produced by these mines is so utilized, however. Much is burned into lime and sold in that state for building and other purposes. A considerable quantity also is crushed to the sizes available for macadam purposes and thus used in road-making, while some is reduced almost to powder and used for fertilizing land lacking in calcareous substances.

It is thought by those familiar with the conditions prevailing here, and with the multiform uses to which limestone of a high degree of purity is used, that the next few years will see a redoubling of the quarry production of this section, making the business of still greater proportionate importance to the community than it is now.

GEO. BYRNE.

Jacksonville and Duval County Set the Pace— A Big Joint Advertising Campaign by City and County.

Jacksonville, Fla., September 18.—[Special.]—Jacksonville and Duval county, Florida, will jointly spend \$15,000 during the fall of 1916 and the spring of 1917 on a big advertising campaign, in which the advantages of both the city and county will be told to the world in a truthful manner. The fact that Duval county has over 500,000 acres of tillable land and only about 10,000 acres in actual cultivation was brought to the attention of the board of county commissioners, and they decided that the past exaggerated statements as to Florida would be discredited and the truth told, which in their estimation is enough to bring thousands of settlers to the county. They then appropriated \$5000 for a national advertising campaign, with the result that the city appropriated \$10,000 for the same purpose.

The distribution of the advertising will be in the hands of an advisory board from the Jacksonville Chamber of Commerce, the Real Estate Board, the City Council and the County Commissioners, making a total of 12 members. Their procedure will be to place advertisements in magazines and newspapers throughout the country, and if the results are satisfactory, a larger appropriation will be made next year.

By law the county can appropriate one-half of one mill for publicity purposes, which, if done according to the figures this year, would make the appropriation over \$20,000.

Texas Power & Light Co. Extensions.

More than 300 miles of high tension transmission lines are now being operated by the Texas Power & Light Co. of Dallas, which recently completed its connections between Paris and Waco. Paris, Waco, Bonham, McKinney, Denison, Temple, Taylor and Fort Worth are now connected, the last named being with the Fort Worth Power & Light Co. Plans are now being considered for further extensions of the Texas Power & Light Co., and it is contemplated to build a large central generating station at Austin, to be followed by the extension of transmission wires to Austin and San Antonio. The Southern Traction Co. contemplates extending its railway from Waco to San Antonio, and this would require a large portion of the electricity developed at the Austin plant.

The Texas Power & Light Co. is a subsidiary of the American Power & Light Co., and is closely allied with the Southern Traction Co.

It is reported that the Texas Power Co. is now planning to build its proposed electric generating station on Red River, near Denison, under consideration for several years.

MARVELOUS RICHNESS OF LOUISIANA RECLAIMED LANDS.

In Top Eight Inches Nitrogen Enough for 1000 Fifty-Bushel Crops—Soil Could Be Used as Fertilizer of Lands Elsewhere.

By O. W. CRAWFORD, Paradis, La.

The reclaimed lands of Louisiana have had no such potent circumstance as the interest of the United States Government to advertise them. Government money spent in irrigation meant Government approval of irrigation. If the Government approves—that is enough for the American people.

Reclamation is the reverse operation of irrigation. The one is taking the water off the land; the other is putting it on. Each operation is for the same purpose—to make the land available for agriculture.

If the Government had undertaken one reclamation project in Southern Louisiana, there would be today a broad line of farmers waiting to grab each acre as soon as it is made ready for the plow.

Water is worth more than land, and as its uses come and go over the whole country, it costs more than land. It costs from \$30 to \$40 an acre to irrigate \$1.25 an acre land and \$25 to \$35 an acre to reclaim Louisiana \$10 an acre land. The increase in the value of the lands is a fair measure of the benefits of development to the individual, to the community and to the municipalities. Ten years ago the wet prairie lands could have been bought by the thousands of acres for \$1, \$2 and \$3 per acre, and only a few years before at from 12½ cents to 50 cents an acre. At the present time these same lands have a value of \$10 and \$20, and those reclaimed and in cultivation are selling at from \$100 to \$600 per acre.

Reclamation has been handicapped by the newness of the proposition, the inexperience of owners and operators, the lack of available money and the wonderful richness and fertility of the soil. It is a fact that on the lands of the proposition of reclamation (covering 10,000 acres) which the writer knows the most intimately, the land has always produced more of crops than have been gathered. It is not unlike the bringing in of a great oil gusher in a new field—there was no proper and competent equipment for taking off the crops. Acres and acres of broom corn wasted in the field; cotton, better than a bale to the acre, unpicked; corn left for the birds; sugarcane cut down by the frost and always a wealth of "Pyfine" grass, which analyzes in cattle food—protein and carbohydrates—the equals of alfalfa, unused, except by great prairie fires.

It is pertinent to canvass a soil so naturally fertile and productive of staple crops and foods. I submit an analysis of the reclaimed wet prairie lands:

J. C. MIMS,
Analytical and Industrial Chemist,
825 Gravier Street,
New Orleans, La., July 26, 1910.

Analysis No. 26,818.

Sample of soil.
No marks.

CERTIFICATE OF ANALYSIS. Soil from Paradis Farms. Top Soil.

On a dry basis.	Per cent.
Organic matter.....	52.030
Including nitrogen.....	1.72
Equivalent to ammonia.....	2.09
Phosphoric acid.....	0.188
Potash.....	0.622
Iron oxide.....	2.610
Aluminum oxide.....	5.029
Calcium oxide.....	1.840
Magnesium oxide.....	1.598
Silica and insoluble silicates.....	34.350
Undetermined.....	1.742
	100.000
Subsoil.	Per cent.
On a dry basis.....	0.356
Nitrogen.....	0.432
Equivalent to ammonia.....	0.263
Phosphoric acid.....	0.739
Potash.....	

REMARKS.—While this soil is extremely rich for a soil, yet, in my opinion, it is hardly valuable enough to sell as a fertilizer. Nevertheless, it can be advantageously used by manufacturers of commercial fertilizers as a filler. The commercial value of this top soil, after drying and grinding, would be between \$5 and \$6 per ton. This is the value of the plant food contained in it, and as fertilizer manufacturers have to pay from \$3 to \$5 a ton for inert fillers, it is possible that a better price than \$6 might be had. This top soil extends down about 16 inches from the surface, and would yield, after drying, approximately 1000 tons of finished product per acre.

Aside from the fertilizer question, I wish to emphasize its great agricultural value, as it is one of the richest soils that I have ever seen and would give handsome returns from any crop planted in it.

(Signed) J. C. MIMS,
Analytical Chemist.

All the gold and all the silver from all the mines in all the years since the discovery of gold in California is not as one in one thousand to the wealth produced by the humus in the farmed land in the United States. The organic matter in the soils of the valleys made there the most productive farms and the richest people. Go West for a review, and consider for a moment the Connecticut Valley, the Mohawk, the Piedmont, the Genesee, the Miami, the Wabash, the Ohio, the Mississippi, the Missouri, the Platte, the Arkansas, the Red River and all the other valleys, great or small, abounding in nitrogen, which made possible the rapid, marvelous growth of the United States. Nitrogen, if you have it in your soils, is worth the most; if you haven't got it, it costs the most.

Prof. Firmin G. Bear of the University of Ohio, after analyzing this reclaimed land soil, said: "It has enough nitrogen present in the first eight inches to grow 1000 50-bushel crops of corn."

If there is a place in these United States where the land has more plant food than any other, that place should be quickly known of all men, and the medium which presents it intelligently will be a public benefactor to agricultural America.

A study of the reclamation situation at this time shows that there are in Louisiana 14,740 acres of reclaimed wet prairie land now under actual cultivation. This is not all, because many plantations and farms have reclaimed additional acres and small tracts. Nor does this include any of the few operations west of the Atchafalaya River. Of ownerships intended for reclamation on which it is going on or has begun there are 105,100 acres.

There is a step in reclamation at which the land is not fully ready for cultivation, but is in fine condition for grazing cattle. It is before the field or lateral ditches have been put in. The outside canals and levees are made, the pumping plant established and the inside reservoir canals finished. Cattle on the land at this time aid reclamation by tramping and settling the decayed vegetable matter, and return a handsome income—which may be treated in another article.

Deep Wells That Feel the Sea.

In their investigation of the underground water resources of the Coastal Plain of Virginia the geologists of the United States Geological Survey have collected data relating to the many hundreds of artesian wells that yield excellent waters in large areas of the coastal region. Particular note has been made of the quantity and quality of the supply afforded by wells that give flows at the surface. The water of most of these wells is admirably adapted to household uses, though that of some of them contains enough mineral salts in solution to make trouble in boilers used for steam production.

The variation in flow exhibited by these wells with the rise and fall of the tide is of peculiar interest, the flow being notably greater at the flood than at the ebb tide. It is the general opinion among well drillers that practically all flowing wells near tidal rivers or inlets from open bays do feel the distant sea, but some of them so slightly that the variation in flow is not noticeable.

The geologist in charge of the ground-water investigations in Virginia states that changes in water level in wells, due to fluctuations in the height of the surface of some neighboring body of water, have been observed all over the world. It is customary to explain these changes by supposing a direct connection between the river, lake or bay; but in many places, as in Eastern Virginia, such connection is clearly impossible, owing to the depth of the wells and the nature of the intervening beds, some of them dense, tough marls and clays. These beds, however, though they do not transmit water, nevertheless contain it, and as water is practically incompressible, any variation of level on the river or bay is transmitted to the well through the water-filled gravels, sands, clays and marls. When a porous bed is tapped by a well the water rises to the point of equilibrium and fluctuates as the hand of the ocean varies its pressure on the beds that confine the artesian flow.

LARGE IRRIGATION PROJECTS IN TEXAS PANHANDLE.

Reorganization of Pearson Syndicate Subsidiary to Develop 60,000 Acres Near Plainview—Other Large Areas May Also Be Taken in Hand.

Austin, Tex., September 19.—[Special.]—The reorganization of the Texas Land & Development Co. by the election of C. J. Hubbard of Boston, Mass., as president, succeeding H. I. Miller of New York, resigned, assures, according to announcement, the completion of the gigantic irrigation project near Plainview, Tex., which has been in a state of inaction for several years, so far as new development is concerned. The irrigation is done by pumping water from shallow wells by means of gasoline engines and centrifugal pumps having a capacity of 1200 to 1500 gallons per minute. The company purchased 60,000 acres susceptible to this character of irrigation and put down about 60 wells, installing an individual pumping plant in each capable of irrigating 120 to 160 acres each. Under the new organization many new wells are to be put down and irrigation machinery installed until the entire tract is reclaimed.

It is largely Canadian and English capital behind the enterprise. The Texas Land & Development Co. is a subsidiary concern to the syndicate that was headed by the late Dr. F. S. Pearson, who went down with the Lusitania. The Pearson syndicate owns the Mexico City Light & Power Co., the hydro-electric plant at Necaxa, Mexico, the electric systems of the City of Mexico, the Federal District and the city of Puebla, the Mexico Northwestern Railroad from Juarez, Mexico, to Chihuahua; also large lumber mills at Madera and Pearson, Mexico, as well as 3,000,000 acres of timber land in Western Chihuahua. The largest box factory in the world, located at El Paso, Tex., is owned by this syndicate, and it also undertook the great Medina project, near San Antonio, contemplating the irrigation of 60,000 acres of land. Its financial interests ramify to South America, also being interested in light and power plants in Brazil.

This syndicate is not to be confused with the other so-called Pearson syndicate, which has large interests in Mexico, being one of the largest producers of oil in that country, and also owning the electric street railway systems of Vera Cruz and the new one at Tampico, and operating the National Tehuantepec Railroad under a 51-year lease from the Mexican Government. This syndicate is headed by Lord Cowdray, who was known as Sir Weetman Pearson before he was elevated to the peerage.

Both these huge financial concerns are known as the Pearson syndicate, but are entirely separate, having nothing in common except the name.

The pumping of water from shallow wells for irrigation purposes has been tested out in a number of localities in the last few years in Western Texas, Eastern New Mexico and in one notable district in Southern New Mexico. The success or failure of such enterprises depend upon a number of conditions—the head against which water must be lifted, the character of soil and climate, which determines whether or not high-priced crops can be grown; the purity of the water supply, the character of the water-bearing sand and gravel, which determines largely the expense of putting down the well; the price of fuel oil, the extent to which rain can be counted upon to supplement irrigation, and so on. In several communities remarkable success has been attained, in others the results are not so promising.

The determination of the Pearson syndicate to go ahead with the project at Plainview, after several years' actual experience in growing crops, seems to presage an extension of this character of irrigation over large areas of Western Texas, where water, soil and climate conditions are practically the same as in the Plainview region.

To Discuss Building Paper Mill in Florida.

Jacksonville, Fla., September 23.—[Special.]—To discuss the news print situation, the feasibility of a paper mill owned by newspaper publishers in Florida, and needed legislation to relieve the present conditions, President Oscar Conklin of the Florida State Press Association has called a gathering of the newspaper publishers of Florida to be held in Jacksonville October 6.

The Courage of the South.

[Huntington (W. Va.) Herald.]

We have before us the MANUFACTURERS RECORD of September 7. This great industrial journal, devoted to development of the South's natural resources, prints in this issue the most remarkable editorial expression that ever came from a single issue of any journal published in this country. In a compilation of editorials from Southern newspapers, representing Virginia, Florida, North Carolina, South Carolina, Georgia, Tennessee, Alabama, Arkansas, Texas, Missouri, Mississippi and others, the MANUFACTURERS RECORD produces evidence which proves that President Wilson's attempted coup d'etat by which he proposed to capture the labor vote of the country, is proving a fiasco of the most definite character, and is destined to resolve itself into a boom-crash which will strike home long before the November election.

These editorials, all pertinent to the Adamson bill, were published, some while the bill was pending, others after its passage. They come not only from Democratic territory, but from editors who are traditionally Democratic and who unconsciously hold to that faith, as a rule, regardless of conditions. But these Democrats by birth and tradition are progressive. They are casting off the hide-bound theories of the past, and more than one of them during the past four years has come out boldly for a protective tariff. But even this breaking of the chains of traditional bondage had not prepared the country for the unanimity of condemnation which Southern editors heaped upon the Adamson bill.

These editors, like their brothers in all parties in the North, believed that the country did not have to surrender the one great fundamental upon which the nation is founded as a Government. The Democrats, who are blind followers of the President, if they thought at all, prior to the passage of the Adamson bill, thought that surrender was the only means by which anarchy could be avoided, unmindful that surrender itself under the circumstances was anarchy. But the Democratic editors of the South have shown that they are no longer sectional Democrats, and that all sectional feeling has been buried. They have shown, furthermore, that they have a courage and a patriotism which lifts them above mere partisan considerations.

Here are the captions of a selected number from a multitude of condemnatory editorials in Southern newspapers:

"Is This Great Republic of Ours Drifting Upon the Rocks?"—Augusta Chronicle.

"Is Peace So Sweet as to Be Purchased at the Price of Liberty?"—Newport News Daily Press.

"Wilson's Invocation Should Have Been 'God Help the Republic.'"—Greensboro (N. C.) News.

"Most Pusillanimous Act in History of American Congress."—St. Louis Globe-Democrat.

"A Pitiful Surrender."—Richmond Evening Journal.

"Fraught With Injustice All the Way Through."—Staunton Leader.

"How Cleveland Settled It."—Tampa Tribune.

"Disgraceful Act, Unparalleled in American History."—Jacksonville Times-Union.

"Democracy on Trial."—Charlotte News.

"An Impossible Proposition Through No Commendable Motive."—Augusta (Ga.) Chronicle.

"Under Watch and Pistol."—Greenville (S. C.) News.

"The Humiliation Is Complete."—Chattanooga Times.

"President Was Unfair."—Montgomery Advertiser.

"It Is Time That a Halt Was Called."—Greenwood (S. C.) Journal.

"A Shameless Surrender of Principle to Expediency."—Augusta (Ga.) Chronicle.

"The Public Will Not Soon Forget It."—Chattanooga Sunday Times.

"Congress Terrified by Coercion."—Newport News Daily Press.

"Who Makes the Laws?"—Florida Times-Union.

"Are the People Proud of Their Lawmakers?"—Roanoke Times.

"Mr. Wilson Was Dictatorial and Opinionated."—Greensboro (N. C.) Daily News.

"Will There Also Be An Attempt to Rape the Judiciary?"—Memphis Commercial-Appeal.

"Will React Seriously."—Richmond Virginian.

"A Bigger Problem Opened Up."—Macon Telegraph.

"Betrayer of Public Confidence."—Richmond Evening Journal.

"Execution First, Trial Afterward."—Houston Daily Post.

"Arbitration is Dead."—Montgomery Advertiser.

"Will Regret Arbitrary and Arrogant Course."—Baltimore Sun.

Under each of these captions was printed a clear, ringing and vigorous protest against panic in Government, or mobocracy at the helm, as many have been pleased to term it.

While the condemnation of legislation by force of threat has been uttered by many Democratic papers in the North, and by every Republican paper with an ounce of courage, the condemnation in the South is so nearly unanimous, so frank, so forceful, as to prove beyond question that while the hasty course of Congress will react against the nation, it will much sooner react, or has already, in fact, reacted against the President who throttled the principle of arbitration at a time when that principle was on trial for its life.

TAMPA'S FIRST STEEL VESSEL.

2000-Ton Freighter Launched for Hudson River Service—Shipyard Facilities to Be Greatly Increased.

The first steel steamship to be constructed south of the Virginia yards was launched from the Tampa (Fla.) Foundry & Machine Co.'s ways last Saturday morning. The ship is a freighter of 2000 tons, and was christened the Poughkeepsie. It was built for the Central Hudson Steamboat Co. of New York, and is intended for service on the Hudson River. It is 215 feet long, 48-foot beam, and will draw 10½ feet of water. It will be equipped with three Scotch marine boilers 12 feet 6 inches in diameter and 14 feet long, each with two corrugated furnaces 45 inches in diameter, with a steam pressure of 180 pounds. The boilers will use the Howden forced-draft system. The engines are of the triple expansion vertical marine type, high pressure, with 18-inch bore, intermediate cylinder, 29-inch bore, and low-pressure cylinder 47-inch bore. The driving power will come from a single screw 9 feet 6 inches in diameter. Contract price was approximately \$200,000. The machinery for the boat, which was built in local shops, will be installed at Tampa, and on completion of the boat, in about three months' time, it will proceed to New York under its own steam. It is designed for a speed of 14 knots.

The moving spirit in the shipbuilding enterprise is Ernest Kreher, president of the Tampa Foundry & Machine Co. After six years with the Plant Steamship Co. he became superintendent of the Tampa Foundry & Machine Co., and since that time has worked his way to the presidency and now controls the majority of its stock. It is announced that the company will increase its capital from \$125,000 to \$500,000 and will extend its present shipyard facilities.

TECHNICAL EDUCATION FOR MEN EMPLOYED.

Night Courses in Business Economics and Engineering at Johns Hopkins—Baltimore's Example for Other Cities South.

In the past 10 years the leading business men of this country have glimpsed the limitations of mechanical equipment and processes. They have realized that their competitor has the same opportunity in so far as standardization of equipment, buying, transportation, mechanical processes, etc., is concerned, and that the human factor in their organization is the determining point in their service to the community. The scientific development and training of the human factor had been slighted by most organizations up to that time, probably because our inventive faculties were stimulated by the large reward brought by improvements in mechanical and technical processes, and particularly because of the immediate appearance of definite aims accomplished. No one today, however, denies the value of business educational training. Technical training in schools of

technology has long been a factor in the creation of our great industries, but business educational training is the product of this demand by progressive executives for men developed and trained scientifically.

The leading colleges and universities of the country have realized this need, and have provided instruction to meet it. There arose, however, another question, how to secure these advantages for those already employed, and the attempt to solve this has resulted in night courses being given and latterly even correspondence courses are being tried by some colleges and universities.

Baltimore has secured the co-operation of the Johns Hopkins University, through a committee representing various organizations, members of the Board of Trade, in order to meet this demand for instruction in subjects of direct interest and value to young men actually engaged in or contemplating entrance into business, industry and commerce, and to make such instruction available at hours and under conditions that would meet the convenience of those likely to make use thereof.

This committee made definite application to the university for such instruction, and President Frank J. Goodnow of the university responded wholeheartedly to the needs demonstrated, stipulating that if a fixed amount of money were guaranteed to the university over a period of three years, covering only the actual cost of operation, the authorities of the Johns Hopkins University would on their part agree to offer such instruction. Through the liberality of the business men of the community this was successfully accomplished.

The following courses in business economics will be given, beginning October 16, from 8 P. M. until 10 P. M., each course consisting of one night a week throughout the academic year, at a cost of \$20 per course per man:

Political Economy.
Corporate Finance.
Life Insurance.
Money and Banking.
Statistics.
Social Problems.
Industrial Management.
Mathematics of Finance.
Salesmanship and Advertising.
Business Psychology.
Commercial Law.
Accounting.
Business Spanish.
Business German.
Business French.
Business English.

These courses will be added to as a demand for other subjects arises. They will be supplemented by special lectures; this, however, is still under consideration, and will be definitely determined later.

Night courses will be given in engineering for technical workers from 7:30 P. M. until 9:30 P. M., and may be in the form of lectures, laboratory or drafting. A course in any subject will ordinarily occupy two evenings a week, and will cost \$10 per year for each hour per week. These courses include:

Mechanical Engineering:

1. Machine Design and the Study of the Materials of Machine.
2. Elementary Heat Engines and Power Production.
3. Lectures on the Principles of Industrial Organization.

Electrical Engineering:

1. Elements of Electricity and Magnetism.
2. Direct Current Machinery.
3. Elements of Alternating Currents.
4. Alternating Current Machinery and Practice.

Civil Engineering:

1. Elementary Hydraulics.
2. Structural Mechanics.
3. Strength of Materials and Design of Structures.

The following composed the committee which worked up the matter and secured from the business men of Baltimore, through individual guarantees of \$100 a year each, a total of \$10,000 a year for three years in order to establish the Johns Hopkins University to undertake this important work: Douglas Burnett, Advertising Club; C. Leland Getz, American Institute of Banking; Phillip Hamburger, Jr., Credit Men's Association; Hilary Luke, American Institute of Banking; Charles M. Ness, Credit Men's Association; Leslie Peard, Advertising Club; H. A. Tingley, Advertising Club; Henry E. Treide, Merchants and Manufacturers' Association.

The example of Baltimore's business men and of Johns Hopkins University in co-operation is one that should be followed in other communities and by universities and colleges throughout the South.

GREAT DRAINAGE PROJECT IN NORTH FLORIDA.

\$3,000,000 Estimate on Cost of Work—265,000 to 350,000 Acres to Be Reclaimed—Bids to Be Received Soon.

Final plans have been announced for the important reclamation project by which 265,000 acres of land included in the Upper St. Johns Drainage District, Florida, will be reclaimed as now planned, with probabilities that this acreage will be increased to 350,000. The lands in the drainage district lie in Brevard, Osceola and Orange counties. The work, including main drainage canals, feeders, etc., will probably total about 250 miles of canal ways, and the estimated cost is around \$3,000,000. The estimated yardage of earth to be removed is 26,100,000, 2,400,000 yards of which are hardpan.

It is announced by George B. Hills, engineer, that the district will shortly be ready to receive bids. It is expected that various details will be completed, so that the actual work of drainage can start in about six months.

The project for the drainage of these lands was originated 15 years ago by George Hopkins of Melbourne, Fla., who has continuously worked on the project since that time. The last act in straightening out every preliminary detail was the recent approval by the War Department of the drainage plans.

The tremendous importance of this development may be appreciated when it is understood that some \$25,000,000 will be immediately added to the value of the lands as soon as drainage work is completed.

The supervisors of the drainage district are Frank L. Bills of Melbourne, J. N. Whitner of Sanford and Amos A. Barlow of Cocoa. The engineers are Isham, Randolph & Co. of Jacksonville and Chicago. P. A. Vans Agnew of Jacksonville is attorney.

Florida's Thousand-Acre Corn Field.

Florida's standing as a corn State is not generally recognized throughout the North, but as a matter of fact corn has been raised on an extensive scale in a number of Florida counties for a great many years. An eye-opener along this line is furnished by the announcement that one corn field on what is known as the Young farms in the bottom lands of the Oklawaha River, Marion county, Florida, consists of 1000 acres of nothing but corn. Various tests throughout the big field have demonstrated that an average of 85 bushels to the acre will be harvested. It is reported that the entire cost of raising and harvesting the crop will be slightly over \$8000, and as the field of corn is worth upwards of \$80,000, a princely profit is seen in this one year's crop.

In addition to the 1000 acres of corn, the same farm has 100 acres in cowpeas, 125 acres of rice, 30 acres of navy beans, 5 acres of dasheen and 5 acres of amber sorghum. It is stated that the rice crop will bring between \$9000 and \$10,000, and that this will pay for the entire farming operations.

It is stated by the Leesburg (Fla.) Commercial that, in addition to the Young farms, there are 17,000 acres of rich black muck lands in the Oklawaha River Valley which have now been drained and made ready for the raising of bumper corn and other crops.

350,000 Tons Acid Phosphate Annually.

Contract has been awarded for building and equipping the acid phosphate factory which the Standard Guano Co. of Baltimore has been planning to build at Curtis Bay. The annual capacity will be 350,000 tons. The Chemical Construction Co. of Charlotte, N. C., has the plant contract; Peter Gilchrist, also of Charlotte, engineer-architect.

Barium Products Manufacturing Plant.

A plant for the manufacture of barium products will be built at Covington, Ky., by the Stevens-Nixon Chemical Co. of Cincinnati. Its output will include carbonate, chloride, chlorate, nitrate, sulphate, sulphide and sulphite; sodium sulphate, sulphide and sulphite; lithopone; several by-products.

Grain Handling and Storage Plant at Washington.

Wilkins-Rogers Milling Co.'s 25,000-bushel plant, recently completed; fireproof inland grain elevator of reinforced concrete construction; 27 feet 4 inches by 27 feet 4 inches site area and 73 feet 3 inches high. Foundation is reinforced concrete, slab projecting above ground level and resting on heavy concrete piers that extend to solid rock, all heavily reinforced. Storage



provided by four circular concrete bins 12 feet 6 inches in diameter and 65 feet 6 inches deep, arranged with walls joining to form a center bin; solid steel sash, glazed with one-quarter inch wired glass and pivoted ventilating sections in outside walls; concrete roof slab, covered with tarred felt and gravel. Machinery includes steel-encased elevator leg, screw conveyors under and over bins, steel spouts and valves, etc.; head-house enclosing leg machinery drives and stairway. Equipment furnished by the Weller Manufacturing Co., Chicago. Building designed and erected by Deverell, Spencer & Co., Baltimore.

Bridge to Connect Norfolk and Berkley, Va.

Contract for constructing the proposed steel bridge to connect Norfolk and Berkley, Va., has been awarded to Laub & Stuart of Pittsburgh. This structure will cost from \$350,000 to \$400,000, and will be owned by the Norfolk-Berkley Bridge Corporation, Ira Johnson, president, Norfolk. It will be 2100 feet long, with superstructure of steel and with electric motors to operate draws. There will be two bascule draws, giving clear opening of 140 feet between fenders. The approaches will be paved with brick on concrete base, and the bridge spans with wood blocks on concrete base.

The Cotton Movement.

In his report of September 22, Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 53 days of the season was 1,537,664 bales, an increase over the same period last year of 394,815 bales. The exports were 690,460 bales, an increase of 300,086 bales. The takings were, by Northern spinners, 163,072 bales, an increase of 11,852 bales; by Southern spinners, 412,990 bales, an increase of 63,012 bales.

\$850,000 Bridge Across St. Johns River.

Plans have been adopted for the proposed bridge across St. Johns River, connecting Jacksonville and South Jacksonville, Fla. They have been prepared by J. B. Harrington of Harrington, Howard & Ash of Kansas City, and provide for a vertical lift type structure with 38-foot roadway. The estimated cost is \$850,000. Duval county commissioners, L. L. Meggs, chairman, are in charge of arranging for construction.

Sawmill Location Wanted.

F. W. MORGAN & SON, Holiday, Mo.

We are looking for a location for sawmill somewhere in the South, and want to get in touch with parties having timber; also with manufacturers of sawmill supplies.

ARMOUR PACKING PLANT TO BE OPENED AT JACKSONVILLE, FLA., OCTOBER 15.



Jacksonville, Fla., September 23—[Special.]—The packing plant being erected in Jacksonville by Armour & Co. will be open for operation October 15. The plant, which was started July 1, will have a killing capacity of 200 cattle, 500 hogs and 200 sheep per day.

The power-house of the plant will contain two 100-horse-power boilers and a refrigerating machine of from 30 to 50 tons capacity. The building is of two stories, and is situated near the large fertilizer plant of the company on the St. John's River. It thus has ample water and rail facilities for receiving the stock and shipping the packing-house products.

In speaking of the advantage to the farmers of Florida in having a large packing plant located in the largest city of the State, H. B. Minium, manager for Armour & Co., quotes Dr. W. B. Dawson, health commissioner, as saying that this movement will do more to stimulate the livestock industry than anything that

could possibly be done by any individual, county or State movement that might be launched. With such a movement it can be pointed out to the Florida landowner and stockman that the time for him to improve his herds and take care of them the same as Northern stock raisers is at hand.

"It costs no more to raise a good 1000-pound steer than a 600-pound scrub," Mr. Minium declares, "and Florida is adapted to the growing of many nourishing grasses as well as the velvet bean and soy bean."

On October 19 and 20 the meeting of the Southeastern Stock Raisers' Association and Florida Livestock Association will be held in Jacksonville in honor of the opening of the plant, and Armour & Co. have made arrangements for a barbecue at the new packing-house to feed 20,000 people. On the last day of the celebration 100 pure-blooded bulls will be sold at cost to the farmers desiring to buy them.

News and Views from Our Readers

Great Progress of New Orleans and Louisiana in Industrial, Financial and Commercial Lines.

H. A. W. HOWCOTT, Orient Trading Co., Ltd., New Orleans, La.

We are today mailing you, under another cover, trade edition copies of the New Orleans Item and Times-Picayune, showing the growth of New Orleans and its volume of trade, etc., during 1916, etc.

We specially call your attention to the following articles:

In the Item—Cover design, first page, "Statistics on Manufacturing, Banking, Etc." From this you will note that the factory statistics recently published in your magazine as given by the late United States census returns do not do New Orleans justice; there being nearly as much manufacturing in the suburbs of the city, just outside of the city limits, as there is in the city proper. You will also note that the bank deposits are perhaps larger than those of Dallas, Tex., and Atlanta, Ga., combined, which cities were favored over New Orleans for regional banks. Also there is shown for August an increase of over \$30,000,000 in clearings above those of August, 1915, while for the eight months of 1916 ending August 31 clearings aggregated \$784,789,607, against \$610,452,165 for the corresponding period of 1915, an increase of \$174,337,442.

In the Times-Picayune—"New Orleans Heralded as a Business City," section B, page 18, "Pull Together Spirit Shows Results," section B, page 13; "Grain Elevator Nearing Completion," "Review of the Cotton Warehouse," and "New Orleans Harbor a Marvel," all in section B, on page 1. "Southern Pacific Erects Big Shops," section A, page 22; "Progress in the Commercial Area" and "Development of Oil Refineries," both on section A, page 7. From these two articles on page 7, section A, you will note that the business district of New Orleans is improving and expanding, and that in its suburbs are springing up large oil refineries, which seem to indicate that New Orleans is destined to become one of the largest oil centers in this country, and maybe perhaps its largest.

The automobile registration in Louisiana in 1916 was 18,000, an increase of 8000 over 1915 registration. Dealers report indications are that next year's registration will show an even greater increase.

We understand that Louisiana has one of the best cotton crops among Southern States; that its rice crop is splendid, and will yield several extra bags per acre over normal, and that its sugar crop, what there is left of it through the kindness of Underwood's free-trade law, will cash in \$40,000,000.

It looks this year that Louisiana is going to have a full dinner pail and a fat stuffed Christmas stocking. With our oil, sulphur, salt, building of good roads, rural schools, etc., great bodies of deep rich alluvial soil, and a long-growing climate, with good rainfall, we have a great and grand State down here in Louisiana.

Hopewell Suggested as Situs of Steel Plant.

THOS. B. ROBERTSON, Secretary Board of Trade, Hopewell, Va.

The article appearing in the MANUFACTURERS RECORD of August 24, relative to the location of a steel plant on Hampton Roads, appeals to me as an important move in the right direction. I would, however, like to suggest that the live and active city of Hopewell, at the conjunction of the Appomattox and James rivers, would be peculiarly well situated for such a plant, and the two great railroads you refer to, namely, the Chesapeake & Ohio and the Norfolk & Western, could well get together and make this point available for such an enterprise.

There would be several advantages at once apparent in locating here. The first is its protected position, being well enough inland to be always secure from foreign interruption. The second would be its accessibility to ocean-bound traffic, because of the fact that it is at the junction of the two rivers named and ocean-going vessels could easily tie up at the docks at this place, and with the improvements contemplated in the naviga-

tion of the James River from City Point or Hopewell to the mouth of the river, there would be depth of water to carry the bulk of the trade.

Hopewell is situated on the Norfolk & Western Railroad, and is accessible to all of its lines. It also has its harbor facilities—the Old Dominion Line has one of its important wharves here. The Chesapeake & Ohio could reach this place by a branch line that would put it in easy communication with any plants established here. Hopewell would, therefore, be about halfway between the coal fields in the western part of the State and West Virginia, and the tidewater seaports, more properly so called.

By this advantageous situation it would make possible the operation of the industrial plants of the nature referred to in the cheapest manner possible.

It seems to me that an opportunity here presents itself that should not be allowed to go without a thorough and careful investigation.

State's Competing With Private Concerns in Lime-Making Discouraging Individual Enterprises.

J. C. FRANK, General Manager The Ohio C. Barber Fertilizer Co., Barber, Va.

The writer well appreciates the good work that you have been doing and are now doing for the development of the South and the valuable aid that your periodical is to the Southern States. Since he came here from Ohio something over a year ago to take the management of this plant he has noted repeated appeals, particularly in Virginia, for outside capital to invest here because of the wonderful opportunities which Virginia offers to manufacturers and farmers.

Three years ago last March Mr. O. C. Barber of Akron, Ohio, founder of the "Diamond Match" industry, was persuaded by a Virginian lime enthusiast and promoter to purchase and develop this marl lime plant. Mr. Barber has accordingly spent between \$190,000 and \$200,000 on the development of the proposition, and while we have operated two years, we have as yet been unable to pay actual operating and upkeep expenses, to say nothing of interest on borrowed money or dividends.

A year ago last July the State of Virginia opened up near Staunton a plant for pulverizing limestone, which it offers in bulk to citizens of Virginia, in direct competition with us, at 75 cents per ton f. o. b. their plant. We charge for bulk lime \$1.60 per ton f. o. b. our plant. The State uses convict labor, for which it pays little or nothing. We employ free labor and pay from \$1.60 to \$2.25 per day.

If the writer is correctly informed, the State of Virginia has a second lime plant nearing completion, this installation being located near Norfolk. It is our further understanding that the State of North Carolina will erect a lime plant and offer to the farmers a product to compete with ours.

The State of Ohio operates a lime-grinding plant, but all of the product is used on State farms and interests. Can you inform us why the State of Virginia went into competition with the agricultural lime industry of Virginia and to what extent she intends to compete with legitimate business enterprises? Inasmuch as we represent outside capital, and in view of the treatment which the State of Virginia has accorded us, we fail to understand why we should be particularly enthusiastic over the development of this section.

The Northwest Looks to South to Help Legislation for Water-Power Development.

H. J. PIERCE, Columbia Valley Reclamation Co., Seattle, Wash.

I am greatly desirous that Federal legislation of a nature fair both to the public and to the investor should be enacted at the next session of Congress which will make possible the development of our now wasting water-powers. I am personally interested in a great (now wasting) water-power located on the Columbia

River in the State of Washington, which would have been developed long ago except for the restrictive laws now in force, under which it is impossible to obtain development capital. I have done what little one man could do toward the solution of this problem.

I have been much gratified to note the position which your great journal has taken in this matter, and have read the different articles which have appeared with much interest.

I take pleasure in enclosing New York draft for \$4 in payment of my subscription for the coming year.

What One Copy Does.

H. S. CUNNINGHAM, Editor Leader and Vindicator, Bishopville, S. C.

We appreciate the MANUFACTURERS RECORD in the highest degree, and keep a file of all numbers, which are frequently consulted by professional and business men.

Increases His Respect for Baltimore.

MORTON LIEBSCHUTZ, Chemist, care Balbach Smelting & Refining Co., Newark, N. J.

I must confess that I was somewhat astounded at the sight of the special issue of your paper. It is a monument, and to give a monument to every member of three scientific associations is something which has never been done before. I admire your generosity, and appreciate it very much as far as I am concerned, and I am sure that you will be flooded by letters of thanks, no doubt more expressive than mine.

I am glad that the city of Baltimore has such a paper as the MANUFACTURERS RECORD. It increases my respect for Baltimore.

Want to Purchase Equipment for Big Fruit Farm.

C. W. VREDENBURG, President South Florida Homes Company, Arcadia, Fla.

It may interest you to know that some prominent business people of Rochester, N. Y., who are not yet ready to have their names published, have bought for cash 800 acres from us and taken an option on 1400 more, and will start at once to put the land under cultivation as a stock farm. They are in the market for fence wire (about 12 miles), tractors and all farm implements and silos. They will do business under the style of "De Soto Stock and Fruit Farms," with headquarters at Arcadia, Fla.

New Coal Production of 1,000,000 Tons Annually From West Virginia Mines.

Outlining the plans of the Hartland Colliery Co., M. McD. Price writes to the MANUFACTURERS RECORD:

"This company will build immediately, so as to permit lessees to begin operations, about 5½ miles of standard-gauge railroad, and hopes to complete it before January 1. Keithley & Hord, Huntington, W. Va., were awarded the contract on the 16th. They are now moving plant on the ground, their bid covering construction of completed line. This road will be extended about 16½ miles farther next year to develop additional acreage.

"Our company owns 14,000 acres of low sulphur high volatile coal. We have closed eight leases on the property, and lessees will begin erection of plants immediately. The guaranteed minimum tonnage for the combined leases is 1,000,000 tons a year. Connection is made with the Coal & Coke Railroad.

"J. B. Hart of Clarksburg is president, the writer is vice-president and general manager. Secretary and treasurer is Edward Hart. Offices of the company are in the Kanawha National Bank Building, Charleston, W. Va. My office is located at present at Clay, W. Va."

The Iron, Steel and Metal Trades

UNPRECEDENTED COPPER DEMAND FOLLOWS BIG ORDER.

Domestic Users of Red Metal Rush to Cover Requirements—Steel Mills Now Decline Foreign Business—New Price on Billets and Sheet Bars—Pig-Iron Market Continues Active.

New York, September 26—[Special.]—As was to be expected, there was a tremendous demand from domestic consumers for copper today for delivery in the first quarter of next year, following the announcement yesterday for the closing of the Allies' order for 448,000,000 pounds of the red metal. The withdrawal of this vast block of copper from the market, almost equal to the output of the refineries in a six months' period, set domestic users in action today, and the amount of metal booked by producers for first and second quarter delivery exceeded any day previous since the present movement commenced. Nearby metal was unquotable, and sellers refused to announce quotations except on definite inquiries. It is stated on the highest authority that the Allies remain in the market for 200,000,000 pounds additional, and this is expected to be closed before long.

Steel mills are now refusing to accept contracts for foreign orders. It is estimated that over 100,000 tons steel in various forms are wanted by foreign concerns, and that it is going begging. Shell bars, forgings, structural material, sheet steel piling and other forms are required, and the constant receipt of such inquiries has caused various plants to adopt form letters explaining their inability to accept the tonnage or even quote on it.

A price of \$45 mill on readjustments of billet and sheet-bar contracts for the fourth quarter of this year has been fixed by the Carnegie Steel Co., and it is expected that the other mills will shortly follow suit. The price has been named for some time as a minimum. The mills have practically disposed of their entire tonnage for the fourth quarter, the price having been left open.

The demand for pig-iron coming from domestic and foreign sources continues of an active nature. Absorption of pig-iron by European consumers shows no signs of falling off. In fact, furnaces feel that the demand will continue for many months to come.

Export pig-iron business last week totaled about 100,000 tons, it was learned today. The bulk of it consisted of Bessemer and low phosphorus, which went to France and England. Sales to Holland, Switzerland and Greece made last week totaled about 3000 tons.

STEEL MARKET GAINS IN STRENGTH.

Mills Now Refuse to Make Open Contracts as Raw Product Becomes Scarcer—Wire Manufacturers Advance Prices—Continued Activity in Pig-Iron.

New York, September 25—[Special.]—So strong has the steel market become that mills throughout the country are now only accepting obligations where specific tonnages are involved, and are refusing to take open contracts. In many branches of the industry practically no business is being transacted, as the mills are already filled up for the period that they are willing to consider. Thus, in the case of sheets and tinplate, the books of the manufacturers of these products have not yet been opened for the first half of 1917, or is it likely that they will be for some time to come.

With improved weather conditions steel production is increasing, and nearly all of the mills expect that records in the way of production will be broken next month. The increasing shipments, however, have not reduced the pressure for deliveries in any way, the majority of the mills experiencing extreme difficulty in arranging satisfactory delivery schedules with their customers.

Of particular interest to the steel industry at this time are the requirements of the United States Government in connection with its naval preparedness program. Practically all of the large steel interests have

reserved capacity for the tonnage that will be required, and present indications are that private shipyards will compete with the Government navy-yards for contracts. During the past week bids were taken on a hospital ship and a fuel ship, the Carnegie Steel Co. submitting the lowest prices. Bids were also taken on 68,000 tons steel plates for other naval work and on 425 tons armor plate for the proving grounds at Sandy Hook. The largest purchases will be made in October and November, when bids are to be taken on four battleships, four scout cruisers, twenty destroyers and thirty submarines, which will require about 200,000 tons steel.

Railroad equipment business continues as active as heretofore. Besides the 230 locomotives ordered by the New York Central, as reported last week, other orders of this character brought the week's total to 238 engines. There was also considerable activity noted in car equipment, orders for the week totaling 1514 cars and 550 center construction and underframes.

The demand for steel is crushingly heavy. Mills are overwhelmed with inquiries and the orders accepted are fractionally small in comparison with the tonnages wanted, because of the inability of manufacturers to make shipments required by consumers. As a natural consequence of these conditions prices are advancing, although the large interests are throwing the weight of their influence against higher quotations. Stocks in warehouses are "shot to pieces," but so urgent is the demand that consumers will gladly take broken sizes and pay premiums of several dollars a ton. Official quotations do not represent actual conditions, as higher prices are being paid even for future deliveries. There is much irregularity in the prices asked for either domestic or foreign shipments, and apparently each transaction is a law unto itself.

The American Sheet & Tin Plate Co. has advanced its minimum price on black sheets \$2 per ton to 3 cents for Bessemer and 3.10 cents for open-hearth 28 gauge. The black-sheet market has been stiffening for several weeks past, as has been previously reported, and in the last few days this stiffening has become so marked that a three-cent minimum market is anticipated. Quotations under 4.25 cents for galvanized sheets have evidently disappeared, and these are now quoted at 4.25 cents instead of 4.15 to 4.25 cents, as formerly.

Manufacturers of woven-wire fence have advanced their prices 1½ points for this product, making the new standard discounts 60 per cent. on carloads, 59 per cent. on 1000-rod lots and 58 per cent. on smaller lots. The last advance was 2 points, on March 1. The total advance from that date has been 13 points, or \$22 a net ton. Plain wire has been advanced \$25 a net ton, and wire nails \$1.10 per keg, or \$22 per ton. The mills are willing to sell at the official prices for these products, although in others on the list their quotations are practically nominal.

The market for cold-rolled shafting remains at 20 to 15 per cent. off list, as it has been quoted for several months past. These discounts, of course, refer to large lots for delivery at mill convenience. Lots from stock, for immediate shipment, have been bringing in the neighborhood of full list for a long time, sales being often made at a premium above list. Some of the largest consumers of shafting, such as automobile builders and users of screw stock grades, have closed contracts for first quarter at about 20 per cent. off list, but the shafting manufacturers have not opened their books for contracts beyond January 1, 1917. They expect to do so within a fortnight at 20 to 15 per cent. off, according to the nature of the contract.

There has been no cessation in the activity of the pig-iron market. While the total amount of basic iron involved in last week's transactions was not as large as the week previous, the business taken was very substantial, and generally prices above \$18 valley were quoted. Steel plants have now covered requirements over the first half of next year, and the indications are that a substantial amount more will be taken before all users are covered. The demand for Bessemer iron for export continues very active. J. P. Morgan & Co. have purchased 30,000 tons of special Bessemer and low-phosphorus iron. Domestic users have also taken some fair-sized lots of Bessemer.

Business in foundry irons last week was inclined to

lag, but the tone of the market reflects strength. In this district the purchase of 5000 tons by a Depew (N. Y.) coupler maker was the largest transaction. A New Britain (Conn.) buyer took 1000 tons malleable, while a Newark (N. J.) furnace casting maker took 1500 tons. In other districts sales of foundry grades have been fair, but without special feature, although reports indicate very strong markets.

Within the past 48 hours the pig-iron market has started a fresh advancing movement. While purchases have been made at only slightly advanced quotations, the furnaces are showing a decided tendency to mark up their prices and let the market catch up to them. The selling over the past few weeks for first half shipment was chiefly on the basis of securing backlog business, and now that furnaces are fairly comfortable they can well afford to be independent. Foundry iron is absolutely firm at \$18.50 valley as minimum, and some furnaces are demanding \$19. Basic has sold at \$18.50, and \$19 is expected to be reached as soon as a little more iron is cleared up. It is now practically certain that the supplies of Bessemer ore will be insufficient to make all the Bessemer iron required before the opening of navigation on the Great Lakes next year. We quote basic 25 cents higher and Bessemer 50 cents higher, quotations now being: Basic, malleable, and foundry, \$18.50 to \$19; Bessemer, \$21.50 to \$22; forge, \$18 to \$18.50 f. o. b. valley furnaces.

STEEL AND IRON PRICE CHANGES.

(Dealers' average buying prices for gross tons.)

Bessemer billets (nominal).....	\$45.00—\$50.00
Open-hearth billets (nominal).....	45.00—50.00
Open-hearth sheet bars.....	45.00—50.00
Bessemer sheet bars (nominal).....	45.00—50.00
Forging billets.....	65.00—70.00
Wire rods.....	60.00—
Muck bars.....	40.00—45.00
Beams.....	2.00—3.00
Tank plates.....	3.00—3.75
Steel bars.....	2.00—
Common iron bars.....	2.00—2.75
Rails.....	47.00—48.00
Steel hoops.....	3.00—
Cold-rolled strip steel.....	6.00—6.50
Sheets, No. 28 gauge.....	3.10—
Galvanized sheets.....	4.25—
Wire nails, No. 28.....	2.00—
Cut nails.....	2.00—
Plain fence wire, hase.....	2.75—2.85
Barb wire, galvanized.....	3.45—
Railroad spikes.....	2.65—

Pig-Iron.

Bessemer, Pittsburgh.....	21.50—22.00
No. 2 foundry.....	18.50—19.00
Basic, valley.....	18.50—19.00
Gray forge.....	18.00—18.50
Basic, Philadelphia.....	19.50—20.00
No. 2 foundry, Northern.....	19.50—20.00
Low phosphorus.....	34.00—35.00
No. 2 foundry, Buffalo.....	19.00—
No. 2 South, Cincinnati.....	17.40—17.90
Basic, del., Eastern Pennsylvania.....	19.50—20.00
Bessemer, Cleveland.....	21.00—
Northern foundry, No. 2, Cleveland.....	18.50—
Gray forge, valley.....	18.50—

HEAVIER SALES OF ALABAMA IRON.

General Improvement in Trade Conditions.

Birmingham, Ala., September 23—[Special.]—There was more pig-iron booked in the Birmingham district the past week than any previous week since the buying movement under way at the present time has been on. Between 30,000 and 35,000 tons was booked, both for delivery the balance of this year and for shipment through the first half of 1917. One producing interest reports the sale of 10,000 to 11,000 tons. Four other companies booked between 5000 and 7000 tons each. Prices obtained for this iron ranged from \$14 to \$14.50 per ton at the furnace for 1916 deliveries and \$14.50 to \$15 per ton for first half 1917 deliveries.

Inquiries for export iron have also been heavy. One concern refused to book an order for 10,000 tons for shipment beginning at once and running through the year. Another producing company reports the sale of 1000 tons for Copenhagen, 2000 tons for Holland and 1000 tons for Italy. This was mostly special analysis iron. The large tonnages that have been offered have been for standard iron, and only a price of \$13.50 to \$14 per ton could have secured the business.

Southern buyers have very promptly come into the market for the remainder of this year's requirements, and some difficulty has been experienced in securing the iron by reason of the fact that some of the producing companies have already sold their entire 1916 anticipated make, and especially is this true of the higher grades.

Now that the market has attained a certain degree of stability, whatever warrant iron there is available is

being sought at a figure slightly under present base price, but holders of these warrants are rather optimistic and no disposition has been shown to throw them on the market at a lower price than present prevailing producers' prices.

The strengthening of the market has also more nearly put the Tennessee State furnaces in line with Birmingham prices. The season of the year is approaching when through navigation will be available on the Tennessee River for shipment of iron to Metropolis and Jopka from Chattanooga and Sheffield and Florence.

The cast-iron pipe market has also shown strength during the week, and prices have been advanced \$1 per ton over recently prevailing prices. The old Dimmick pipe plant, which has been idle for the past two years, has been put in operation again by the United States Cast Iron Pipe & Foundry Co. This plant will be gradually worked up to a substantial output. There was also formally organized during the week the Talladega Pipe & Foundry Co., which will engage in the manufacture of soil pipe. The company has leased and will remodel the old plant of the Birmingham & Atlantic Railroad Co. at Talladega. Operations will begin about January 1, 1917.

Following are prices on high-pressure pipe per net ton f. o. b. cars at the plants: Four-inch, \$26; six-inch and up, \$29, with \$1 per ton extra for gaspipe and 16-foot length pipe.

The old material market has been materially strengthened, and dealers are very much encouraged with the prospects of a greatly increased home consumption of this material by the proposed erection of four additional electric furnaces at Anniston, Ala. This plant will become a large user of steel scrap of all kinds, including shop turnings and borings.

The Alabama coke market continues at high mark, and the price for spot foundry coke has advanced to \$5 per ton at the ovens. Furnace coke is exceedingly scarce at this time. One or two coal operators are now figuring on leasing 150 to 200 old beehive ovens for the purpose of manufacturing furnace coke.

The coal trade of the State is in better shape than it has been for many months past, mostly due to the fact that car shortage only enables the operating of mines about three days per week.

Following are producers and dealers' prices f. o. b. cars plants:

PIG-IRON.

No. 1 foundry and soft.....	\$14.50 to \$15.00
No. 2 foundry and soft.....	14.00 to 14.50
No. 3 foundry.....	13.50 to 14.00
No. 4 foundry.....	13.25 to 13.75
Gray forge.....	12.75 to 13.25
Basic.....	14.00 to 14.50
Charcoal.....	21.50 to 22.00

OLD MATERIAL.

Old steel axles (net ton).....	\$25.00 to \$26.00
Old steel rails.....	11.50 to 12.00
No. 1 wrought.....	13.00 to 14.00
Heavy melting steel.....	10.50 to 10.75
No. 1 machinery.....	19.50 to 11.00
Car wheels.....	13.50 to 11.90
Tram car wheels.....	10.00 to 10.50
Stove plate.....	9.50 to 9.00
Shop turnings.....	6.00 to 9.50

ALLIES PLACE LARGEST COPPER ORDER ON RECORD.

J. P. Morgan & Co. Officially Announce the Distribution of Orders for 200,000 Tons of Copper for England and France—Electrolytic Copper Still Very Scarce—Lead Strong and Active—Spelter Easier.

New York, September 25—[Special.]—It was officially announced today that J. P. Morgan & Co. have distributed orders for 200,000 tons of copper for England and France to be delivered in the first half of next year. The purchase of 448,000,000 pounds of copper represents the largest single purchase of the red metal ever reported. The order was distributed among a number of producers. Deliveries are specified at the rate of 75,000,000 pounds a month. With respect to the price paid, producers indicated that the figure was between 26 and 27 cents a pound.

This huge order is absolutely unparalleled in the history of the world's copper industry. As has been frequently reported in these columns, it was known months ago that the Entente Allies were negotiating for a large block of copper, but these negotiations were delayed from time to time. Although the British Gov-

ernment is the direct purchaser, the metal, it is said, is to be distributed to France, Russia and Italy, as well as Great Britain. The order will call for 25 per cent. of this country's output from January to July, 1917, and makes the red metal for the first and second quarter extremely scarce. Up to June 1 of this year, a period of six months, the Entente Powers purchased a total of approximately 450,000,000 pounds of copper, which covered six transactions. The present order makes a total of about 950,000,000 pounds of copper for which Great Britain and her allies have negotiated since the beginning of the year, involving about \$230,000,000.

Announcement of the closing of the large order was followed by an abrupt advance in quotations, with November copper now at 29 cents, and at 29 1/4 cents for whatever small quantities are available. For December copper 28 1/4 cents is now being asked. The price for the first quarter of next year is now firmly established at 27 1/2 cents, and for the second quarter at 27 1/4 cents, or about one-quarter cent net higher.

Producers declare that the amount of business received last week was the largest since the present movement began, early in August. Reliable estimates place the week's bookings at 150,000,000 pounds. This amount is equal to almost a month's production. Domestic consumers did the principal buying, but a miscellaneous foreign business ran to a large total. Scarcity of electrolytic copper for the fourth quarter of the year is becoming more acute. Few of the producers are in a position to take orders, but dealers appear to be plentifully supplied.

Heavy purchases of lead for forward delivery by Canadian consumers was the feature of the lead market last week, with prices advancing from 10 to 20 points. Domestic consumers were also in the market and took fair-sized tonnages of the metal. Demand for lead has been consistent for the past three weeks, and the position of the metal is now the strongest it has been thus far this year. All of the producers are practically out of September lead. Few of the independents are offer-

ing October metal in view of their heavy sales, while consumers are readily taking November lead, due to fears of continued scarcity. The buying of metal by Canadian consumers reflects the placing of some large ammunition contracts in the Dominion, and lead producers are of the opinion that business from the other side of the border may continue active for some time to come. During the early part of the week nearby metal commanded a stiff premium, but toward the close the market was not so strongly inclined in this direction. Little spot lead is to be had, but fortunately consumers are well covered for this month.

After a very strong opening, with considerable buying, the spelter market subsided in activity toward the close of the week, with prices dropping. Brass manufacturers suddenly stopped purchasing the metal, and producers, who were anticipating continued heavy absorption for the fourth quarter, were at first disposed to await a renewal of the buying. When this failed to materialize they commenced offering freely at concessions. There is considerable uncertainty as to whether buying will be resumed shortly. The consumers' viewpoint is that spelter is no longer a factor that need cause them concern, therefore there is no haste to cover forward requirements.

The tin market inclined toward firmness last week, and quite a good business was done, especially in futures. The market, while affected to some extent by fluctuations abroad, seems to be more or less independent of Singapore and London, there being occasions when prices here were higher than those abroad. Consumers who had been waiting for tin to go below 38 cents finally abandoned their waiting attitude and took October, November and December arrivals. Stocks afloat to date are 3765 tons and arrivals are 1610 tons. This indicates that the market is technically favoring sellers. The consuming capacity of the country is placed at 3000 tons a month, and it is considered doubtful if imports will reach this figure. This also indicates a heavier withdrawal from stocks, the reduction of which would do much to restore strength to the market.

THE WEEK'S PRICES.

	Copper.		Lead.		Spelter.	Tin.
	Lake.	Electrolytic.	A. S. & R. Co.	Ind.		
Monday, Sept. 18.....	27.75-28.25	28.37 1/2-28.62 1/2	6.75	6.85-6.95	9.55-9.80	38.37 1/2
Tuesday, Sept. 19.....	27.75-28.25	28.37 1/2-28.62 1/2	7.00	7.00-	9.55-9.80	38.50
Wednesday, Sept. 20.....	27.75-28.25	28.37 1/2-28.62 1/2	7.00	7.00-	9.42 1/2-9.67 1/2	38.75
Thursday, Sept. 21.....	27.75-28.25	28.25-28.50	7.00	7.00-	9.30-9.55	38.87 1/2
Friday, Sept. 22.....	27.75-28.25	28.25-28.50	7.00	6.97 1/2-	9.17 1/2-9.30	38.60

TEXTILES

\$70,000 Textile Products Finishing Plant.

Buildings costing \$50,000 and equipment costing \$20,000 comprise the textile products finishing plant of the Noble-Beveridge Company, Cedartown, Ga., mentioned last week. This \$100,000 corporation has a 300x60-foot building, another 150x50 feet, a bleachery 80x40 feet, all of brick mill construction and one story; power plant with two boilers, 250-horse-power engine, 26 dwellings for operatives, 28-acre site, etc., 30 men being employed. The weekly capacity is 100,000 yards of cloth.

\$12,500 Hosiery Knitting Company.

Women's hosiery will be knit by the Griffin (Ga.) Hosiery Mills, incorporated with \$12,500 capital by Robert P. Chapard, R. O. Crouch, J. P. Mason and others. This company has rented a suitable building and purchased the necessary equipment of machinery.

Textile Notes.

The Crown Hosiery Mills, High Point, N. C., will build a two-story addition costing \$1500.

John L. Dew, Latta, S. C., plans the organization of a \$70,000 company to build the sea-island cotton yarn mill recently reported.

Clement M. Egner and associates, Elkton, Md., have incorporated the Southern Cotton Mill & Commission Co. with \$75,000 capital.

T. J. Killebrew, R. D. Crawford and L. M. Killebrew of Newton, Ala., have incorporated the Killebrew

Manufacturing Co. to manufacture cotton yarn. The capitalization is \$100,000.

The Dixie Cotton Linter Co., Memphis, Tenn., has been incorporated with \$10,000 capital by J. N. Talley, George Day, A. E. Cummins and others.

The Flint River Cotton Mills' recently mentioned addition will be a three-story 23x80-foot brick structure costing \$27,000, and the contract was awarded to V. C. Parker & Son of Americus, Ga.

The Ashley Hosiery Co., lately noted as to establish a mill at Berkley, will install its plant at Walnut and Main streets, Norfolk. It will have 24 knitting machines, with electric power belt drive for a daily capacity of 60 dozen pairs of hose, 15 operatives to be employed.

A. McDonald of Scotland Neck, N. C., will establish a hosiery mill at Fayetteville N. C. He has a building and will install 60 knitting machines with electric power drive all the machinery having been purchased. This is the plant lately erroneously reported to be established by a company organized by the Fayetteville Chamber of Commerce.

Farm Loan Bank Organized.

The Mecklenburg County National Farm Loan Association has been organized at Charlotte, N. C., under the new Federal rural credits law, and it is said it will begin business with 310 shares of stock subscribed and loan applications amounting to \$31,000. The charter members are J. C. Reid, who is president; W. S. Pharr, vice-president; A. B. Hood, J. Will Elliott, S. D. Faulkner, W. H. McGinn, N. O. Alexander, W. R. Alexander, H. W. Harkey and C. M. Hutchinson. H. M. Victor is secretary-treasurer, and T. W. Alexander is attorney. Mr. Victor's address is at the Union National Bank, Charlotte.

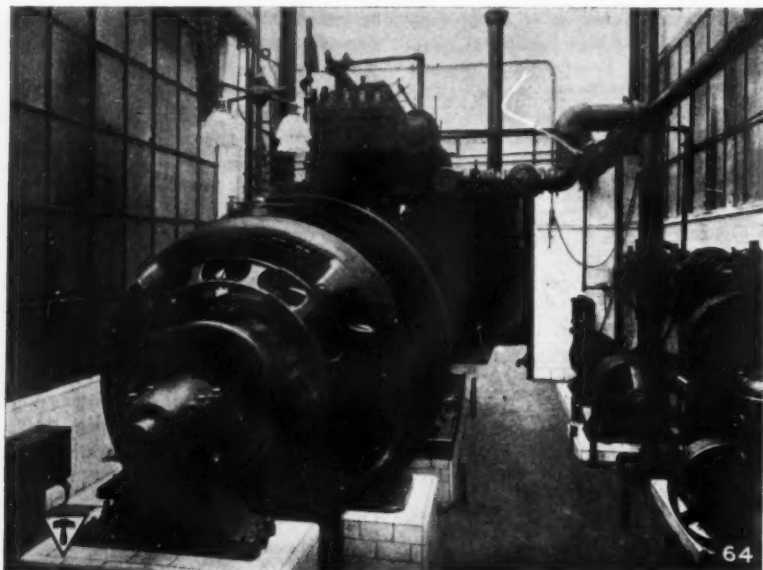
MECHANICAL

Illustrations and descriptions having news value pertaining to developments in machinery, mechanical devices and inventions will be considered for use in this department.

Installing Akerlund Gas Producers at Richmond Works of American Locomotive Co.

Three No. 50, Type "B," Akerlund gas producers, each rated at 500 horse-power, with an overload capacity of 20 per cent., for gasifying bituminous coal and operating in conjunction with a 1000-kilowatt Westinghouse engine, are being installed at the American Locomotive Co.'s Richmond plant by the Standard Gas Power Co., 17 Battery Place, New York, and 713 Grant Building, Atlanta.

Due to the mammoth dimensions of each of the three



A COMPLETE TYPE "B" PRODUCER-GAS ELECTRIC POWER PLANT. THE PRODUCER IS SEEN IN THE BACKGROUND.

generators, special arrangements have been made for the transportation of the vaporizer and water-cooled top, while the shells will be shipped knocked down.

The ability of the Akerlund system to gasify bituminous coals, as well as other bituminous fuels, such as wood, charcoal and coke, lignite, mixture of bagasse

down-draft type. The system, which is illustrated in the accompanying sectional view, comprises a generator, in which air saturated with water vapor is drawn downward through the incandescent fuel effecting the necessary combination of gases; a cooler in which the gas is washed and cooled by sprays of water; a stationary scrubber in which the process of cleansing is carried still further; a combination purifier and pressure-regulating tank, containing wood shavings, sawdust or other purifying material arranged on a series of perforated trays, in which the gas is freed from all moisture and impurities which may have passed through the rest of the system. Suction is maintained by a slow-speed, light-running, positive exhaustor. The exhaustor discharges through the small pressure-equalizing tank. An automatic pressure-regulating valve, with a by-pass connection, relieves the fire from excessive draft when the load varies and makes the draft through the fire at all times proportional to the load. There is provision, also, for using the exhaustor to

blow the fire up-draft when starting from dormant conditions, and for reversing the draft to deliver gas to the engine or furnace by manipulating valves and without changing the direction of rotation or drive of the exhaustor. All inspection and cleaning doors are held on by clamps and hand screws, so the entire system can be

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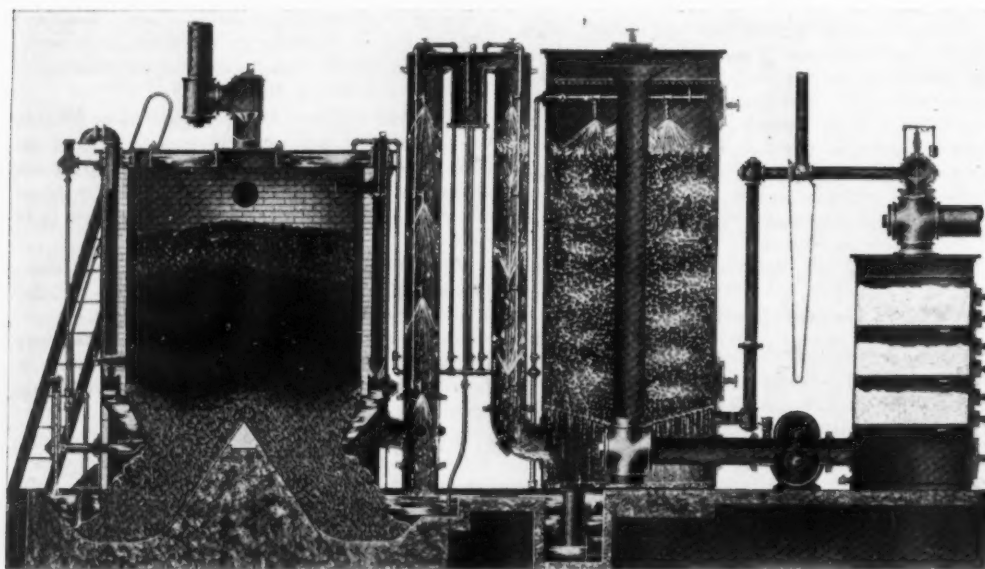
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SECTIONAL ELEVATION OF THE AKERLUND TYPE "B" GAS PRODUCER.

and molasses, bagasse, peat, etc., is claimed to be due to the down-draft principle, in which the tarry impurities, upon distillation, are forced to pass through the incandescent fuel bed, when they are said to be converted into stable gases for power and fuel.

The Akerlund bituminous gas producer, built by the Standard Gas Power Co., is of the single-zone, suction,

opened for inspection and closed without the use of a wrench.

The gas generator is a steel shell, including an annular vaporizer somewhat below the fire line. The shell is supported on piers in a water pit. In the center of the pit, extending upward inside the space enclosed by the shell and to a point somewhat below the vapor-

J. H. Emory of the Bowling-Emory Knitting Co., Durham, N. C., will establish a hosiery mill at East Durham, the initial installation to be 30 machines.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

RECORD YEAR OF SOUTHERN PACIFIC.

Gross Revenues Increase More Than \$22,800,000 as Compared With the Last Period.

The annual report of the Southern Pacific Company for the year ended June 30, 1916, is a most interesting document. It says that the gross earnings, which amounted to more than \$152,600,000, were the largest in the history of the company, exceeding the previous high record of 1913 by more than \$9,900,000 and increasing, as compared with last year, more than \$22,800,000.

The company continues its policy of liberal expenditures for maintenance and improvements, and included in this work it is now building at Algiers, La., a new machine and erecting shop 264x185 feet, while it is improving its pier terminals at Galveston, Tex. Track scales were installed during the year at New Orleans, as well as at Wharton and Glidden, Tex. Stations were also erected at Carpenter, Cleveland, Iago, Wellborn and Van Vleck, Tex. These are combination freight and passenger stations, but a passenger station alone was built at Mexia, Tex., and another is being completed at Rayne, La. At Beaumont, Tex., a car repair shop 300 feet long was completed. At Nixon, Eagle Lake and Mansfield, Tex., additions and improvements were made to the water station facilities. Fuel station improvements (for the use of oil-burning locomotives) were installed at Waco, Bay City and Burnet, Tex. The rebuilding of the grain elevator at Galveston was finished.

It is said that there has been no abatement of automobile competition for local passenger travel, but the losses sustained have been more than counterbalanced by the extraordinary travel which was stimulated by the California expositions during the first five months of the company's year; by the movement of troops between points on the Mexican border, and also by a general improvement in agricultural and commercial conditions along the company's lines. Earnings under a new contract with the Pullman Company and the revenue from dining cars, hotels and restaurants were substantially increased by the exposition travel. Thus the increase in gross earnings from passenger travel was over 12.3 per cent.

"The interruption of steamship service through the Panama Canal since September 18, 1915," continues the report, "has minimized sea competition and has restored to your company's lines the freight which had been diverted from them by the frequent steamship service through the Panama Canal during the previous year, and by the low rates then prevailing. Nearly all the steamers which had operated through the canal found more profitable employment in consequence of the increased demand for steamship tonnage owing to the European war, and they have not been restored to regular service between Atlantic and Pacific ports since the reopening of the canal. Upon the return of normal conditions, however, it may safely be assumed that the intense competition of the canal steamship lines will be encountered again."

The following on the increased cost of conducting business is very illuminating:

"In order to maintain the company's credit, and to provide for the natural growth and development of its lines, such threatened increases of expenses (meaning the demands of trainmen for a large increase in wages), can be met in but one of two ways—by an increase of revenue or by a reduction of expenses in other directions. Embarrassed on the one side by numerous ill-considered Federal and State laws, which largely and unnecessarily increase the cost of operation, and on the other by large increases in prices of supplies, your officers have little opportunity left to effect a material reduction in operating costs.

"Comparative prices paid during the year and in 1913 and 1914 for some of the principal items of materials and supplies show increases as follows: Pacific type passenger locomotives, 30 per cent.; 10,000-gallon locomotive tenders, 48 per cent.; 12,500-gallon tank cars, 28 per cent.; plate girder bridges, 97 per

cent.; rolled beams, 97 per cent.; bar iron, 143 per cent.; journal bearings, 99 per cent.; rivets, 134 per cent.; barbed wire, 78 per cent.; tie plates 91 per cent.

"As little or no more can be accomplished in the direction of reducing costs, efforts will have to be concentrated on raising revenues, and unless the present volume of traffic can be maintained or increased, we shall have to appeal for relief to the same public whose tolerance or tacit consent is responsible for the hardships we are enduring."

The income account shows that the railway operating revenues for the year totaled \$152,604,228.19, increase as compared with last year \$22,828,553.10 or over 17½ per cent.; railway operating expenses \$97,443,658.23, increase \$9,689,815.92 or slightly over 11 per cent.; net revenue from railway operations \$55,250,569.96 increase \$13,138,737.18, or 31½ per cent.; total operating income after deducting tax accruals and uncollectible railway revenue (the latter was only \$37,273) \$48,189,971.04, increase \$12,500,357.24 or slightly over 35 per cent.; gross income \$60,393,006.27, increase \$10,745,014.15, or over 21½ per cent.; net income after deductions of interest on funded debt, etc., \$30,885,253.91, increase \$10,314,934.44, or more than 50 per cent.; income balance transferred to credit of profit and loss \$29,950,416.09, increase \$10,319,821.19, or more than 52½ per cent. This amounts to very nearly 11 per cent. on the outstanding capital stock of the Southern Pacific Company.

The total assets are \$1,578,601,456.68, increase \$17,466,976.89. This includes the road and equipment at \$939,971,725.25, an increase of something more than \$31,250,000 since last year.

McKEEN MOTOR CAR FOR CUBA.

200-Horse-Power Gasoline Engine and Passenger Car Combined to Replace Steam Train.

The McKeen Motor Car Co. of Omaha, Neb., has completed for the Ferro-carreiles del Norte de Cuba (Northern Railroads of Cuba) a 200 horse-power gasoline motor car with Type C engine, and it is now en route under its own power to Key West, whence it will be transported by railroad ferry to Havana. It will be put in service between Jucaro and Moron, taking the place of a steam-operated passenger train.

This car, which is the one hundred and forty-eighth turned out by the McKeen company, is the very latest development of the invention of W. R. McKeen, president, whose first engine in 1905 was a 100 horse-power machine, and it represents the matured result of 11 years' experience in construction of this particular kind of railroad motive power and equipment. The power unit maintains the McKeen original standard principle of mounting the engine upon the front truck and the mechanical transmission upon the main or driving axle, which produces, it is claimed, a power transmission of 95 to 96 per cent. It is not the 100 horse-power "front" truck of 1905, brought out by Mr. McKeen as superintendent of motive power of the Union Pacific Railroad, together with his corps of engineers, but it is the product of manufacturing experience since then, aided materially by the combined experience of 69 railroads operating the McKeen motor cars in the United States, Mexico, Canada and Aus-

tralia for periods of from one to eleven years. Now Cuba is added to the list of countries utilizing the invention.

A picture of the car is presented herewith. It is 70 feet long and of standard track gauge. It is divided into two passenger compartments, one for first class, with seats for 20 persons; the other for third class, with seats for 60 persons. There is also a baggage compartment and a mail compartment. The total weight of the car is 74,000 pounds. The car body is of the builders' original standard round window type, similar in interior arrangement to their other cars, providing separate compartments for two classes of passenger traffic. The lighting is electric, provided by the Stone axle system.

KEY WEST-HAVANA FERRY.

Second Steamer, the Joseph R. Parrott, Launched for Florida East Coast Railway.

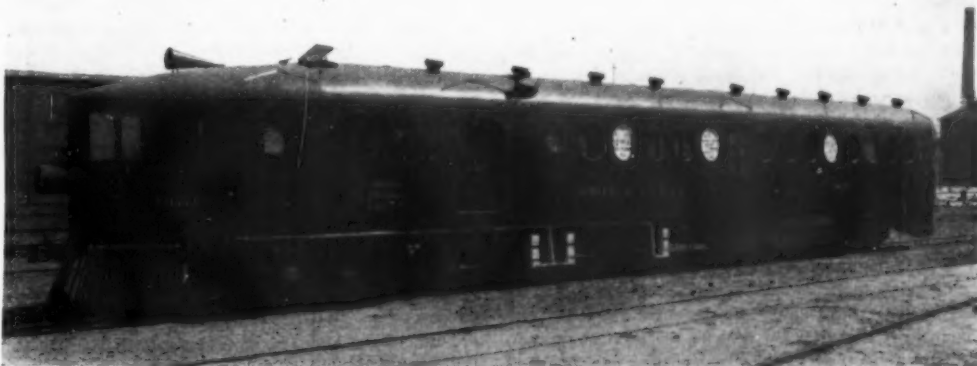
There was launched at the yards of the William Cramp & Sons Ship & Engine Building Co., Philadelphia, on Monday of this week another large railroad ferryboat for the Florida East Coast Railway Co. to operate between Key West and Havana in conjunction with the Henry M. Flagler, which has now been used on the route for nearly two years. The new ship, which has been named Joseph R. Parrott, in memory of a former president of the railway, is like the other vessel, whose operation has proved so successful. It is 360 feet long and 57 feet wide; the speed is 13 knots per hour. The car-carrying capacity will be the same as the first ship, viz., 30 of the largest refrigerator cars, and it will also have three cargo holds. One of the forward ballast tanks may also be used to carry molasses in bulk. The motive power consists of two triple-expansion engines designed to develop 1500 indicated horse-power at 100 revolutions per minute with 170 pounds steam pressure. There are four boilers of the Scotch marine type. All the equipment of the steamer is up to date, and includes modern conveniences for the officers and crew.

The Flagler was put in service January 2, 1915, and it seems likely that the Parrott will begin her trips to and from Havana by January 1, 1917, if not before.

Mrs. Laura Bertini de Cespedes, wife of the Cuban Minister to the United States, Dr. Carlos Manuel de Cespedes, christened the vessel.

New Engine Terminal at Alexandria, Va.

The Southern Railway Co. has awarded to J. P. Pettyjohn & Co. of Lynchburg, Va., the first contract in its plans to build a modern engine terminal at Alexandria. It covers the foundation work for the roundhouse and turntable. The building will have 20 stalls and the turntable will be 100 feet long and capable of handling the heaviest locomotives. There will also be erected a mechanical coal-handling plant of 100,000 tons storage capacity and electrically operated; cinder pits, a water tank, a sand plant, a small shop for running repairs, a storehouse for oil and various other supplies, and wash and locker rooms for the employees. The making of this improvement will also include the construction of sundry tracks in the yard. The site is



McKEEN MOTOR CAR GOING TO CUBA.

on company property immediately south of the National Cemetery.

These facilities will take the place of the existing small roundhouse and the light turntable, which are too limited to accommodate such heavy locomotives as are now necessary, and the old-fashioned wooden coal chute pits cannot be operated with economy. They are, moreover, upon a site too restricted to permit of their enlargement. On the other hand, the new facilities to be provided will not only accommodate the present big engines, but they will take care of others planned for the future and will further enable the company to effect economies in operating, in addition to placing it in a position to enjoy the greatest benefits from the increased capacity of its line made possible by the construction of double track all the way from Washington to Atlanta.

Car Repair Facilities at Spencer, N. C.

Bids are being asked by the Southern Railway for the foundation of a large car shed and a shop which will be erected at Spencer, N. C., to enlarge its facilities there for repairing cars. The work will be started as soon as the contract for the foundations has been let, and the rest of the construction will follow promptly. The shed, which will be of all-steel construction, will be 600 feet long and 109 feet wide. The shop will be 100 feet long and 50 feet wide.

These improvements will take the place of the present small and congested wooden shed now used, and they will also permit of a greater output at less cost. The new shed will be equipped with overhead cranes for handling car bodies as well as materials, and it will furthermore be provided with all modern conveniences and appliances. The shop will have machines and tools of the latest design for this special kind of work. Additional track space will also be provided to care for the greater number of cars to be handled. All the mechanism will be operated by electricity, the current being purchased from a local source, and for this a transformer-house will be built.

Orangeburg to Estill, S. C.

The Carolina Southern Railway Co. has been granted a commission in South Carolina and proposes to build a line about 60 miles long from Orangeburg to Estill. Orangeburg is on both the Atlantic Coast Line Railroad and the Southern Railway, and Estill is on the Seaboard Air Line near where the Southern Railway crosses it. The capital of the new company is \$30,000, which may be increased to \$1,000,000. Headquarters will be at Orangeburg. The petitioners are J. Leroy Dukes of Orangeburg, E. N. Mittle of Bowman and W. C. Martin of Branchville, S. C.

Street Railway to Be Improved.

The Blue Ridge Light & Power Co., Staunton, Va., will improve and extend its street railway and will add new cars and car barn facilities. It is expected that the improvements will be completed early next spring. W. E. Moore & Co., engineers, of Pittsburgh, will supervise the construction.

American Securities Held Abroad.

L. F. Loree, president of the Delaware & Hudson Railroad, has again made a study of the amount and value of American railroad securities held abroad, this being his third consideration of the subject since the war in Europe began. The result shown is that during 18 months ended July 31 of this year American markets have absorbed \$1,288,773,801 par value of these securities, their total market value being estimated at \$898,390,910, leaving the amount remaining abroad \$1,415,628,563 par value and \$1,110,099,090 market value, estimated.

According to an estimate made in New York and based upon expressions of opinion gathered from bankers of long experience the amount of American industrial securities held abroad at the outbreak of the war amounted to about 25 per cent. of the total of railroad securities, and their liquidation has been in proportion

to their total in just about the same ratio as railroad securities.

It is explained that the heavier sales of American securities of late is because of the tax of 10 per cent. imposed upon them in Great Britain, in addition to the normal income tax of 25 per cent. on large estates.

New Equipment, Etc.

Chesapeake & Ohio Railway will purchase 1000 all-steel hopper coal cars of 70 tons capacity.

Western Maryland is reported getting prices preliminary to placing order for 2000 all-steel hopper coal cars of 50 tons capacity.

Chicago & Alton Railroad will buy 200 automobile cars.

Maryland Steel Co. has ordered 2 six-wheeled switching locomotives from the Baldwin Works, Philadelphia. Pennsylvania Railroad will purchase 1000 box cars. Seaboard Air Line is reported making inquiries for from 50 to 100 stock cars.

Missouri Pacific Railway is expected to soon place contracts for 2000 cars.

Southern Railway will purchase 7000 tons of bridge steel.

Blue Ridge Light & Power Co., Staunton, Va., will buy some new cars.

Missouri, Kansas & Texas Railway is reported in the market for equipment.

Railroad Notes.

The annual convention of the American Electric Railway Association will begin its sessions at Atlantic City October 9.

H. A. Lane has been promoted from assistant engineer of surveys to assistant to the chief engineer of the Baltimore & Ohio system, as announced by R. N. Begien, chief engineer.

The new union station at Macon, Ga., has been completed by the contractor, according to a report from there, but it is said that litigation over the closing of Pine street, which results from the construction of the terminal, may delay for an indefinite time the opening of the station for use.

The Helens Run line of the Western Maryland Railway, a detached piece of road branching from the Baltimore & Ohio Railroad at Chiefton, near Fairmont, W. Va., has been placed in service. It is about 6¼ miles long, and was built to develop coal mines, the product of which will be taken over the Baltimore & Ohio to Connellsville, Pa., where it will reach the main line of the Western Maryland.

A small folder on "Railroad Freight Advertising," written by Henry A. Palmer, has been issued by the Traffic Service Bureau, Chicago. It is an interesting argument in favor of railroads advertising freight service as well as passenger service, and claims that judicious publicity would be of advantage to the railroads as well as to their patrons.

LUMBER

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

A New Native Dye Wood.

[Reprinted from the Journal of Industrial and Engineering Chemistry, September, 1915.]

The yellow locust tree, *Robinia pseudacacia* L., grows abundantly in the Middle States, Virginia and North and South Carolina, and is highly valued as a strong, even-grained, permanent timber. It is also much used for the manufacture of small hardwood objects.

In a factory working this wood it appeared desirable to discover some better disposal for the sawdust and chips than of their use as fuel.

Upon extracting the sawdust by prolonged digestion with hot water a brown liquor is obtained which affords decided colors with the common mordants.

Through the kindness of Messrs. John H. Heald & Co., manufacturers of tanning extracts, Lynchburg,

Va., a test of this sawdust has been made. This report states that the "amount of soluble is only about one-third that of black oak bark, so that the yield of dye extract would be low. The dyeing power of this is, however, quite strong, as, using the same amount of the locust sawdust as black oak bark, the locust gives the deeper color." * * * The colors afforded with mordants are similar to those obtained from black oak, or Quercitron bark. With manganese a strong amber-brown is obtained, and with alum a bright, strong, yellow, khaki color.

As locust wood is so very hard, it would not prove profitable to chip it for this purpose, but when a supply of sawdust or chips from turning is available, it may prove of advantage to employ it for dyeing in place of Quercitron bark.

F. P. DUNNINGTON,

University of Virginia.

Mammoth Tie Contract Secured by Kirby Lumber Co.

Houston, Tex., September 20—[Special.]—A rumor that a Western company had secured a mammoth tie contract for a long term of years with the Eastern railroads has been confirmed by B. F. Bonner of Houston, vice-president and general manager of the Kirby Lumber Co. of Houston, Tex. It is one of the biggest contracts in the history of the Southern lumber industry. It will mean several million ties every year.

In order to facilitate the handling of this contract, the Kirby company has opened special branch offices in New Orleans, Mobile and Hattiesburg, and the ties will be produced in Louisiana, Texas, Mississippi and Alabama. It means a tremendous immediate development in the hewn tie industry in these various States.

Government Urges Use of Blight-Killed Chestnut.

According to the Government Forest Service, there is no reason why farmers and other woodland owners whose timber has been attacked by the chestnut blight should not make use of the killed and infected timber. Such material, it is claimed, has been found after three years' trial to be as durable as that which the blight has not attacked, but it should always be peeled before being used.

Experiments have shown that blight-killed and infected chestnut is just as durable as the healthy timber, and is consequently equally valuable. These experiments, say the foresters, show that there need be no hesitation about using wood affected by the blight for any purpose to which chestnut is suited.

Huge Silo for Texas Dairy.

The Union Lumber Co., Union Mills, Wash., recently sold what it claims is the largest silo ever built. The silo was 40x80 feet. It required 66,000 feet of fir lumber to construct this silo. Ordinarily six or seven silos are shipped in one car, but in this instance it took three cars to make the shipment. The silo was sold to the Tennessee Dairy Co. of Dallas, Tex., which will have a capacity for 2000 tons of ensilage, whereas an average silo holds from 75 to 80 tons.

American Lumber in Cuba.

Cuba imports annually about 600,000,000 feet of lumber. This consists, for the most part, of pine, spruce and fir, and is imported in the form of inch boards, running from 6 to 12 inches in width, planks two and three inches thick and of various widths. The greater part of this lumber comes from the United States, principally from the Gulf of Mexico ports, but Canada supplies a large quantity.

During June of the present year Savannah lumber brokers formed the Savannah Lumberman's Association, of which practically all of the lumber dealers of Savannah are members. It is reported that the association has worked with a great deal of benefit to the trade at large, and it is felt that a long and useful career is ahead of it.

Good Roads and Streets

SOUTHERN HIGHWAY ACTIVITIES.

Details in regard to road and street undertakings and bond issues, briefly mentioned below, are given under the proper headings in our "Construction Department" and "New Securities," published elsewhere in this issue.

Bonds Voted.

Pennsboro, W. Va.—City voted \$20,000 bonds for paving and sewer construction.

Panama City, Fla.—Bay county voted \$375,000 bonds to construct roads, including 15-foot cement highway from Panama City to Parker.

Bonds to Be Voted.

Brownsville, Tex.—Cameron County, District No. 7, will vote on \$15,000 bonds for road improvement.

Cameron, Tex.—Milam county will vote on \$15,000 bonds for road construction in District No. 7.

Covington, Ky.—City will vote on \$80,000 for boulevard, on \$20,000 for extending street and additional bonds for paving.

Contracts Awarded.

Baltimore, Md.—City awarded contracts for alley paving to cost \$47,000.

Baltimore, Md.—State awarded contracts for constructing .95 mile of streets with sheet asphalt.

Baltimore, Md.—State awarded \$66,421 contracts for constructing 6.7 miles road.

Keyser, W. Va.—Mineral county awarded \$45,840 contract for road construction in Piedmont district.

Lawrenceburg, Tenn.—Lawrence county let contract to construct 36 miles highway; cost \$136,000.

Richmond, Va.—Government let contract for constructing 4 miles of roads in Chopowamsic Swamp between Richmond and Washington; cost \$20,000.

Rockville, Md.—Montgomery county awarded \$20,500 contract for constructing highway.

Contracts to Be Awarded.

Arkansas City, Ark.—Desha county has plans for 10-mile road construction to cost \$50,000.

Baltimore, Md.—City invites bids until October 4 to construct 1600 square yards sheet asphalt paving and 2000 cubic yards grading.

Baltimore, Md.—City votes November 7 on \$2,000,000 loan to continue street improvements in Annex and \$1,000,000 loan to continue street improvements in old city limits.

Benton, Ark.—Saline county has plans for 10-mile road construction to cost \$17,000.

Brooksville, Fla.—City will let contract October 19 to construct 7140 square yards asphaltic concrete paving and 5640 feet concrete curb; \$9469 available.

Corning, Ark.—Clay county will construct six-mile road.

Covington, Va.—Alleghany county will improve 49 miles road in Covington district; \$100,000 bonds available.

Conway, Ark.—Faulkner county has plans and specifications for gravel road to cost \$35,000.

DeKalb, Miss.—Kemper county will let contract October 11 to grade, rock and drain 30 miles road.

DeLand, Fla.—City invites bids until October 1 to pave streets, including 24,060 square yards brick, 17,464 linear feet granite or concrete curb, etc.

Evening Shade, Ark.—Sharp county has plans and specifications for 50-mile gravel road to cost \$95,000.

Harrisburg, Ark.—Poinsett county has plans for 16-mile road construction to cost \$38,000.

Hinton, W. Va.—Summers county, Tolcott district, has \$65,000 available for road construction and accompanying improvements.

Holly Springs, Miss.—Marshall county invites bids until October 5 to construct 14 miles sand-clay roads, with bridges and culverts; issue \$25,000 bonds.

Hopkinsville, Ky.—Christian county invites bids until October 3 for road construction to cost \$45,000, including 21 miles resurfacing and 9 miles new macadam.

Monroe, N. C.—City asks bids until October 5 for 7550 square yards of sheet or asphaltic concrete paving on 4-inch concrete base.

Princess Anne, Va.—Princess Anne county will construct 15 miles of gravel and sand-clay roads; has \$130,000 available.

San Antonio, Tex.—Toll Road Co. proposes construction of road to cost \$40,000.

Tulsa, Okla.—Tulsa county will construct 20-foot hard-surfaced road to cost \$30,000 to \$35,000.

Van Buren, Ark.—City will construct 30,000 square yards asphaltic or asphaltic concrete paving.

Wellsburg, W. Va.—Brooke county invites bids until October 20 to construct 10.5 miles road.

Good Roads and Bridges for Mississippi Counties.

The Highway Commission of Supervisors' District No. 1, Kemper county, Mississippi, will let contract for 30 miles of road to be graded, rocked and drained. On October 11, at 10 o'clock A. M., at DeKalb, Miss., the Board of Supervisors will at the same time and place let contracts for about 100 bridges, cement and concrete to be used. Snowden & Hauser, Columbus, Miss., engineers.

The Highway Commissioners of Supervisors' District No. 5, Kemper county, Mississippi, will let contract for 30 miles of road to be graded, rocked and drained. On October 11, at 10 o'clock, A. M., at DeKalb, Miss., the Board of Supervisors will at the same time and place let contract for about 100 bridges, cement and concrete to be used. Snowden & Hauser, engineers.

Relation of Paved Highways to Civilization.

During a recent session of the short winter course in highway engineering of the University of Illinois, President A. D. Gash of the Illinois State Highway Commission delivered an address in which he discussed various features of road construction and pointed out the broad relationship of paved highways to civilization and to other civilizing agencies in every field.

"If this generation would undertake," said he, in the course of his remarks, "with the means, facilities and improvements we have, to build every public thoroughfare in the State of Illinois, comprising 96,000 miles of highways, of the best type of road that we know, which, in my opinion, is a vitrified brick road, built by the monolithic construction, and if built 18 feet in width to every home in the State within a period of 30 years, it would not be half the herculean undertaking that our forefathers undertook and consummated in bringing this splendid community up to the present state of cultivation and civilization that we find it today. In less than a century the people of this State have brought the land into cultivation, erected the schools, the churches, the homes, the manufactories and the places of amusement that we enjoy. In other words, they have made this region worth, if estimated in dollars, billions of treasure; yet we of this generation hesitate at the proposition of building a system of State-aid roads that will cost the people \$180,000,000. The hesitation is oftentimes because it is said that we of this generation cannot build it in time for us to enjoy it in our lifetime. Have we less concern for our posterity than our forefathers? I cannot believe that it can be so said of this generation. It would belittle us in our own estimation. We desire these good roads for our children if we cannot get them finished for ourselves.

"At first blush \$180,000,000 seems like an enormous amount of money, but when it is distributed between the 6,154,000 inhabitants of the State, it is seen at a glance that it amounts to less than \$30 per capita. There is not an able-bodied man, woman or child above 18 years of age who could not pay their part of the cost of this system of roads within a period of 20 years and not miss it from their earnings or income.

"If we build this State-aid system of roads of a permanent type, we may be assured that all the lateral roads will be made better while the State-aid roads are being so constructed, and when the State-aid system is so constructed, the townships will be relieved of expending at least one-half of their money on these main roads for upkeep, and with the same means expended in the future as have been expended in the past

on the lateral roads, they will all be made much better during the period that the State-aid roads are being constructed, thus making our whole system of roads better and worthy of this splendid State and its people. Roads of an adequate type of construction would, so to speak, remove the high schools of the villages and cities of our State to the boys and girls of the country, so that they could get their common school and high school education and spend their evenings with father and mother around the old fireside. The churches and places of amusement would, so to speak, by reason of said improvement, be removed to the people residing upon the farms, and if the whole system of roads was made better and of proper construction, the appeal will not be 'back to the farms,' but 'come to the city,' because the people will desire to live in the country when once they have a taste of the pleasures of good roads in the country. They will flock to the rural districts because of good roads."

Durax Paving at Asheville.

The City Commissioners of Asheville, N. C., have just completed the paving of Pack Square in front of the City Hall with Durax paving blocks, laid by the Harris Granite Quarries Co. of Salisbury, N. C.

The Durax paving blocks are split granite 3½ to 4-inch cubes. These blocks were laid on a 5-inch concrete base, on top of which was spread a 1-inch cushion of sand. Asphalt filling was used over the blocks—two to three gallons per square yard—the top dressed with sand and rolled with a 10-ton roller.

The 5-inch concrete base was laid by the city at a cost of 88 cents per square yard; the Durax blocks, \$1 per square yard; labor and laying, 20 cents per square yard; sanding, hauling, etc., 25 cents per square yard—totaling \$2.33 per square yard.

\$375,000 Bonds for Cement Highway.

Bonds for \$375,000 for road improvements have been voted by Bay county, Florida. The county commissioners, offices at Panama City, will arrange for the sale of these bonds and later for the improvements, which will include constructing a 15-foot cement highway from Panama City to various cities throughout the county.

\$250,000 for North Carolina County Roads.

The Wilkes County Good Roads Commission, Wilkesboro, N. C., has been organized with R. Don Laws, chairman, and H. W. Horton, secretary. This organization will proceed with road plans and engage an engineer, in connection with Wilkes county's \$250,000 highway bonds voted last week.

\$66,421 Maryland Road Contracts.

Additional contracts for road construction in Maryland, awarded during the week by the State Roads Commission, amount to \$66,421.40. They involve the building of seven miles of highway at a cost of \$56,499.40, and \$9942 for constructing concrete shoulders on a completed highway.

Buttons, Men's Furnishings and Oil Lamps.

Fortunato Habib, Malta, Italy:

"I am desirous of establishing commercial relations with firms, neither German nor Austrian, for importing various articles I need. Therefore, I turn to you with the request that you send me, if you please, a copy of your journal. I shall examine it and will give it most careful attention. The goods I wish at this moment are patent pressure buttons like the samples enclosed; I also need a very large number of oil lamps for kitchen use, like the photograph I send you. I would like also to get in communication with an important export firm handling stockings, men's furnishings, etc. I do business solely for my own account, and pay cash. I shall appreciate it very much if you put me in contact with people who make the articles indicated."

Construction Department

IN ORDER TO FOLLOW UP

Properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be written on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the post-office will generally be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur, as our reports are often published before new companies are known and before they have any established office for the receipt of mail.

WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

DAILY BULLETIN

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year.

All advertising contracts in the Manufacturers Record for three months or longer include a subscription to the Daily Bulletin for the contract period, as well as a subscription to the Manufacturers Record.

BRIDGES, CULVERTS, VIADUCTS

Ark., Conway.—Faulkner County Comms. contemplate constructing bridge across Palm Creek in connection with road improvements. (See Road and Street Work.)

Fla., Anna Maria.—J. R. Jones and others plan to construct bridge $\frac{3}{4}$ mile long connecting Cortez, on mainland, with opposite shore Anna Maria Key.

Fla., Clearwater.—Clearwater Island Bridge Co. will construct bridge across Clearwater Bay from Clearwater to island opposite.

Fla., Fort Lauderdale.—Broward County Comms. let contract to Champion Bridge Co., Wilmington, O., at \$6459, for steel highway drawbridge across New River Sound, connecting town with ocean beach; also let contract for timber trestle, at \$4828, to Newland & Olsson, Fort Lauderdale; H. C. Davis, Engr., Fort Lauderdale. (Bids lately noted.)

Fla., Jacksonville.—Duval County Commissioners, L. L. Meggs, Chmn., adopted plans by J. B. Harrington of Harrington, Howard & Ash, Engrs., Kansas City, Mo., for bridge across St. Johns River to South Jacksonville; vertical lift type; 38-ft. roadway; cost \$850,000; will vote on bonds. (Noted in July to vote on bonds, etc.)

Fla., Tampa.—Board of Public Works let contract Bates-Hudnall-Jetton Co. at \$2030.50 to repair Fortune St. bridge.

Ky., Covington.—City votes Nov. 7 on bond issue of \$500,000 for street and bridge improvements, including erection of \$40,000 traffic bridge across Licking River. Address The Mayor. (See Road and Street Work.)

La., New Orleans.—A. F. Borelay, Engr., Public Belt R. R. of City of New Orleans, writes to Manufacturers Record: Legislature adopted resolution proposing constitutional amendment to authorize construction bridge or tunnel connecting east and west banks of Mississippi River; not determined whether connection will be by bridge or by tunnel; committee appointed by Public Belt Railroad Commission has confined work thus far to hearing engineers specializing in either tunnel or bridge work. (State lately noted to hold election Nov. 7.)

Md., Baltimore.—State Roads Commission, Garrett Bldg., let following contracts: G. W. Drury, York, Pa., at \$3956 to repair

bridge over Patapsco River along Westminster-Reisterstown Rd. between Baltimore and Carroll counties; David M. Andrew Contracting Co., 600 Equitable Bldg., Baltimore, at \$1802 to construct concrete steps and 2 pylons for Hanover St. bridge. (Lately noted inviting bids.)

Miss., Columbus.—Lowndes County Supvs., B. A. Lincoln, Clk., ask bids for Oct. 5 to build concrete bridges or culverts at Stations 41, 45, 154, 171, 212, 323 and 402 on Wolfe Rd., Dist. 1; at Stations 137, 316 and 321 on Ridge Rd., Dist. 1; also concrete culvert 3x16 on Steens and Caledonia Howard's Creek Rd., Dist. 1; C. L. Wood, County Engr., Columbus. (See Machinery Wanted—Bridges.)

Miss., Columbus.—Lowndes County Supvs., B. A. Lincoln, Clk., ask bids for Oct. 5 to refloor iron bridge and repair concrete pier across McGowan Creek; refloor iron bridge across Ksuana Creek; build wooden or concrete bridge over Yellow Creek; approach to Air Line bridge over Luxapallila Creek; concrete culverts at Stations 302, 333 and 404; flooring bridge over Mottley Creek; also placing steel railing on iron bridge across Tombigbee River. (See Machinery Wanted—Bridges.)

Miss., De Kalb.—Kemper County Highway Com., Supvs. Dist. No. 1, asks bids for Oct. 11 to construct about 100 bridges; cement and concrete; Engrs., Snowden & Hauser, Jackson and Columbus, Miss. (See Machinery Wanted—Bridges.)

Miss., De Kalb.—Kemper County Supvs. Dist. 5, will let contract Oct. 11 on about 100 bridges in connection with road construction; Engrs., Snowden & Hauser, Jackson and Columbus, Miss. (See Road and Street Work. See Machinery Wanted—Bridges.)

N. C., Elkin.—Surry County Comms., Dobson, N. C., and Yadkin County Comms., Yadkinville, N. C., let contract Virginia Bridge & Iron Co., Roanoke, Va., at \$7690 to construct bridge across Yadkin River between Elkin and Jonesville. (Lately partly incorrectly noted under N. C., Yadkinville.)

N. C., Mount Holly.—Mecklenburg County Comms., Morris McDonald, Chmn., Charlotte, and Gaston County Comms., Gastonia, N. C., agreed to construct bridge across Catawba River at Sloan's Ferry; will ar-

range to have plans and specifications prepared at once. (Noted in August.)

N. C., Shelby.—Cleveland County, J. J. Latimore, Register of Deeds, will erect 3 bridges, requiring 300 tons steel; receive bids Oct. 3. (See Machinery Wanted—Bridges.)

S. C., York.—York County Comms. will rebuild 3 steel river bridges destroyed by July flood.

Tex., Cleburne.—City let contract Missouri Valley Bridge & Iron Co., Leavenworth, Kan., at \$3655 to construct high-water bridge on West Willingham St.

Tex., Corpus Christi.—Nueces County Commissioners, Walter F. Timon, County Judge, will open bids first week in October on lately-noted reconstruction of portion of causeway (shell fill) damaged by storm; about 120,000 cu. yds. dredging, tarviated roadway; cost about \$30,000; Engrs., Bartlett & Ranney, San Antonio, Tex. (See Machinery Wanted—Shell-fill Construction.)

Va., Narrows.—Giles County Comms. let contract to construct bridge over New River at Narrows; length, 872 ft.; steel; cost \$30,000. (Lately noted inviting bids.)

Va., New Kent.—New Kent County will construct reinforced concrete bridge, 20-ft. span, known as "Trunk Bridge"; County Comms. receive bids until Oct. 3; G. P. Coleman, State Highway Comms., Richmond, Va. (See Road and Street Work.)

Va., Norfolk.—Norfolk-Berkley Bridge Corp., Ira Johnson (of Greenleaf-Johnson Lumber Co.), Prest., let contract Laub & Stuart, Pittsburgh, Pa., to construct steel bridge from Norfolk to Berkley; length, 2100 ft.; height, 40 ft.; concrete; pile foundation; superstructure of steel; 2 Bascule draws, giving clear opening of 140 ft. between fenders; 35 ft. above low water under bridge; electric motors to operate draws; structure to consist of 3 truss and 1 draw span; 2 street car tracks, vehicle roadway and sidewalks; approaches to be paved with brick on concrete base and bridge spans with wood blocks on concrete base; cost \$350,000 to \$400,000. (Heretofore noted organized, etc.)

Va., Petersburg.—Special Committee (Robt. D. Budd, City Engr.; J. E. Crawford, Ch. Engr., Norfolk & Western Ry., and J. E. Wiloughby, Ch. Engr., Atlantic Coast Line Ry.) selected 3 sets of plans and specifications submitted by Missouri Building & Construction Co. of St. Louis, Mo.; C. B. Clark of C. B. Clark Co., 225 W. Madison St., Baltimore, Md., and J. E. Lane of University of Virginia, University, Va.; of these, committee will select one set with bids to submit to Council; bridge will be of reinforced concrete construction; length, 1800 ft.; height, 40 ft.; estimated cost, \$200,000. (Noted in July as inviting plans, specifications, bids, etc.)

W. Va., Fairmont.—Marion County Commissioners let contract Merydith Construction Co., Marietta, O., at \$2599 to construct Paw Paw Creek Bridge near Grays Flats.

CANNING AND PACKING PLANTS

Fla., Fairfield.—E. L. Lenker and others propose to build pork-packing plant. (See Machinery Wanted—Packing (Meat) Equipment.)

La., New Orleans.—Morris & Co. (general office, Chicago, Ill.) are reported to invest \$100,000 to enlarge plant.

N. C., Wilmington.—Carolina Packing Co. organized with \$100,000 capital; W. W. Love, Prest.; E. A. Hawes, V.-P.; Milton Calder, Secy.-Treas.; proposes to build meat-packing plant with daily capacity 200 hogs; probable Engr., Brooks Engineering Co., Moultrie, Ga. (Supersedes recent items.)

S. C., Greenville.—Piedmont Packing Co. organized with W. H. Austin, Prest.-Treas.; J. H. Morgan, V.-P.; W. D. Browning, Secy. (Lately noted ineptd. with \$100,000 capital.)

CLAYWORKING PLANTS

W. Va., Fairmont.—Fire-clay Blocks.—Willlets Clay Co. will erect addition to plant; manufacture fire-clay blocks for glass tanks and furnaces.

W. Va., Martinsburg.—Brick, etc.—Municipal Shale, Brick & Block Co. will erect additional plant.

COAL MINES AND COKE OVENS

Ky., Pineville.—Bear Branch Coal Co., capital \$60,000, ineptd. by M. Brandenburg, R. L. Lawson and W. L. Stallworth.

Ky., Tinsley.—White Log Jellico Coal Co., capital \$20,000, ineptd. by M. F. Whitehill, D. B. Logan and B. F. Logan; purchased and will develop East Jellico Coal Co. property; M. C. McClung, Mgr., Barbourville, Ky. (Supersedes recent item.)

Md., Sparrows Point.—Penn-Mary Steel Co. (Bethlehem Steel Corp.) will construct 240 by-product coke ovens; 4 batteries of 60 ovens each; now has 2 batteries of 60 each; let contract to H. Koppers Co., First Natl. Bank Bldg., Pittsburgh, Pa.

Okla., Dewar.—Morgan Coal Co., capital \$30,000, ineptd. by E. B. Morgan of Dewar, E. B. Jones and L. W. Randolph of Muskogee.

Tenn., Kingsport.—Cinchfield Coal & Ice Co. (not "Coal & Iron" Co.) was lately incorporated; recent report incorrect. (See Ice and Cold-Storage Plants.)

Tenn., Petros.—Fodder.—Stock Coal Co., capital \$25,000, ineptd. by Jas. E. Rodas, John M. Davis, Chas. H. Davis and others.

W. Va., Clay.—Hartland Colliery Co., Kanawha National Bank Bldg., Charleston, W. Va., will build railroad for development additional acreage; owns 14,000 acres coal lands; has closed 8 leases; lessees will erect plants; guaranteed minimum tonnage of combined leases, 1,000,000 tons per yr.; J. B. Hart, Clarksburg, W. Va., Prest.; M. McD. Price, V.-P. and Gen. Mgr.; Edw. Hart, Secy.-Treas.

W. Va., Huntington.—By-Product Coal Co., capital \$50,000, ineptd. by Frank Enslow, Jr., G. C. Garred, C. B. Baldwin and others; develop 360 acres; mines not yet opened; no machinery bids needed at present.

W. Va., Williamson.—Beech Fork Coal Co., capital \$25,000, ineptd. by N. H. Manakee and Sarah D. Manakee of Williamson, J. R. Gildersleeve, Jr., of Tazewell, Va., and others.

CONCRETE AND CEMENT PLANTS

Md., Baltimore.—Burial Caskets.—Southern Cement Casket Co., E. W. Hartman, patentee, 3212 Harrisburg Blvd., Houston, Tex., plans establishment factory (next spring) with daily capacity 100 monolithic cement burial caskets.

N. C., Wilmington.—Septic Tanks, etc.—Standard Cement Construction Co., Southern Bldg., ineptd. capital \$15,000; G. A. P. Bowman, Prest.; Chas. D. O'Neal, V.-P.; J. D. Walter, Jr., Secy.; J. B. Davis, Mgr.; produces reinforced concrete septic tanks and sanitary closets; daily capacity, 12 complete outfits.

Tex., Houston.—Burial Caskets.—Southern Cement Casket Co., E. W. Hartman, patentee, 3212 Harrisburg Blvd., plans for 3 additional factories (for monolithic cement burial caskets) in South; 1 of these at Baltimore, Md.; locate 5 plants further East.

COTTON COMPRESSES AND GINS

N. C., Grantsboro.—Grantsboro Gin Co., capital \$36,000, ineptd. by H. A. Benson and others.

COTTONSEED-OIL MILLS

N. C., Raleigh.—Wake County Cottonseed Co. (not "Cottonseed Oil Co., as lately incorrectly noted") ineptd., capital \$50,000, by W. A. Simpkins and others; seed-planting enterprise. (See Land Developments.)

DRAINAGE SYSTEMS

Fla., Kissimmee.—Upper St. Johns Drainage Dist., Frank Bills, Chmn., Melbourne, Fla., has approval of plans from United States War Dept.; plans and specifications by Isham Randolph & Co., Engrs., Jacksonville, Fla., and Chicago; drain 265,000 acres muck lands between Cocoa and Fellsmere; about 40x14 mi. area; in Osceola, Brevard, St. Lucie and Orange counties; estimated cost \$2,000,000; construct 3 main canals and many laterals, in all about 250 mi. of canals; indirectly will drain additional acreage of 100,000. Geo. B. Hill, Engr., Jacksonville, wires Manufacturers Record. "Yardage estimated at 26,100,000 cu. yds. earth and 2,400,000 hard pan; ready to receive bids in about 6 months.

Fla., Tallahassee.—Comms. Everglades Drainage Dist., F. C. Elliott, Ch. Drainage Engr., ask bids until Oct. 31 to construct 19-mi. canal northward from Lake Okeechobee; about 1,600,000 cu. yds. material removal. (See Machinery Wanted—Drainage.)

Ga., Winterville.—Beaver Dam Assn., L. J. Edwards, R. 2. Prest., and J. T. Pittard, Secy.-Treas., will probably drain 1200 to 1500 acres in Clarke, Oglethorpe and Madison counties; land for agriculture; lately noted. (See Machinery Wanted—Drainage.)

Miss., Senatobia.—Arkabutla Drainage Dist. organized with W. W. May, Prest.; L. M. Blanchard, Secy., and C. P. House, Commissioner; district comprises 16,000 acres. (Dist. Comms. noted in May as having surveys made for drainage system.)

Miss., Senatobia.—Hickahaly Creek Drainage Dist. organized; comprises 16,000 acres; cost of drainage system \$75,000 to \$100,000; Holmes & Sledge, Attys. (Noted in May.)

Mo., Cottleville.—Cottleville Drainage Dist., P. W. Looman, Ch. Engr., St. Charles, Mo., let contract R. A. Brown & Co., East St. Louis, Ill., at \$25,812 to construct drainage system; 282,234 cu. yds. excavation for drainage ditches in Dardenne Creek Bottoms, St. Charles county; district comprises 2700 acres. (Lately noted inviting bids.)

Okla., Salisaw.—Sequoyah County Drainage Dist. No. 1 has had plans prepared for drainage system by Winters & Dove, Fort Smith, Ark.; 12 mi. canals, 10-ft. to 32 ft. bottom, average cut 8 to 11 ft., with 620,000 cu. yds. excavation, and one concrete sluiceway; upon approval of bonds, date of letting will be announced; J. V. Blackard, County Clk., Salisaw.

S. C., Anderson.—Anderson County Commissioners organized Six and Twenty Creek Drainage Dist. to construct system to drain 1150 acres land located on Six and Twenty Creek (for 15 mi.) and on its tributaries; W. H. Sherer, Engr.

Tenn., Milan.—Drainage Dist. No. 3, J. W. McKinney, Chmn., is making preliminary survey for drainage of lands on Rutherford's fork of Obion River, in Carroll and Gibson Counties, for diversified farming, including cotton; 15,000 or 20,000 acres; estimated cost of drainage, \$75,000; main ditch 21 mi. long, 30 ft. wide and 10 ft. deep (to connect with canal already constructed); laterals; dredge boat work.

Tex., Liberty.—Liberty County, C. N. Smith, County Judge, will issue bonds to construct 2 canals with laterals; drain 42,250 acres for farming—corn, cotton, cane and rice; lately noted (incorrectly as "Pickens County") to issue \$70,000 bonds.

ELECTRIC PLANTS

Ark., McGehee.—McGehee Water and Light Dist. plans to install 150 to 175 H. P. oil engine to be directly connected to 130 K. V. A. 3-phase 60-cycle 2300-volt alternator, with exciter and switchboard panel; H. W. Wright, Supt.

Fla., Plant City.—Plant City Public Service Co., capital \$100,000, inceptd.; John Gribbel, Prest.; D. J. Collins, V.-P.; both of Philadelphia, Pa.; Rosco Nettles, Secy.-Treas., Tampa, Fla.; acquired Plant City Ice & Power Co.'s properties and contemplates improvements and enlargements, including new building, additional lighting facilities and extensions, enlargement of cold storage features and increasing capacity of ice plant. (This is name of company lately noted organized, etc.)

Fla., Vero.—N. J. Norman of St. George, Ga., will establish electric light and ice plant.

Ga., Damascus.—City, P. G. Webb, Clk., voted \$10,000 bonds for electric-light and water plant. (Lately noted.)

Ky., Perryville.—Russell Bros. Co. plans erection of electric-light plant; cost \$50,000.

Md., Baltimore.—City votes Nov. 7 on \$1,000,000 loan to continue construction of municipal conduit and electrical subway system; money to be expended under supervision of Electrical Subway Com., Raleigh C. Thomas, Ch. Engr.

Miss., Lula.—Lula Light & Water Co. decided to build lately-noted electric-light plant; bids on equipment received until Sept. 25; address T. H. McKenzie. (See Machinery Wanted—Electric-light System.)

N. C., Hickory.—City let franchise Southern Public Utilities Co. of Charlotte, N. C., to furnish electric lighting; will construct white way.

N. C., Mocksville.—City will vote on bonds for electric lights and water-works. Address The Mayor.

Okla., Alva.—O. A. Hunt of Watonga,

Okla., is interested in plan to install electric-light plant.

Okla., Duncan.—City asks bids to install street lighting system; \$5000 bonds voted for poles, generators, etc.; has purchased engines. Address The Mayor. (See Machinery Wanted—Electric Light Plant.)

Tenn., Bearden.—Colonial Lumber Co., H. D. Wyrick, Mgr., is interested in proposed installation of electric 'plant for lighting small town. (See Machinery Wanted—Electric Plant.)

Tex., Austin.—Texas Power & Light Co., Dallas, is reported planning to build large electric-generating station.

Tex., Bellville.—Bellville Ice, Light & Power Co., H. Hamilton, Prest., inceptd.; capital \$30,000; purchased electric-light and ice plant of Belleville Promoting Co. (See Ice and Cold-Storage Plants.)

Tex., Burnet.—W. C. Galloway, Cash. First State Bank, purchased and will install electric-light plant.

Tex., Dallas.—Texas Power & Light Co. will, it is reported, build extensive additions to electrical transmission system.

Tex., Denison.—Texas Power & Light Co., Dallas, is reported as planning to build its proposed electric generating station on Red River under consideration several years.

Tex., Sweetwater.—West Texas Electric Co. increased capital from \$300,000 to \$500,000.

Tex., Wichita Falls.—Wichita Falls Electric Co. increased capital from \$700,000 to \$775,000.

W. Va., Logan.—Boone Power Co. will purchase power from Logan County Light & Power Co., M. A. Maxwell, Gen. Mgr.; distribute power over existing lines which it has acquired. (Lately noted inceptd. with capital \$5000 by M. A. Maxwell, Jas. Jones and others.)

FERTILIZER FACTORIES

Md., Curtis Bay.—Standard Guano Co., 1500 Continental Bldg., Baltimore, let contract Chemical Construction Co., Charlotte, N. C., to erect acid phosphate plant at Curtis Bay; steel and reinforced concrete construction; annual capacity 350,000 tons; plans by Peter Gilchrist, Charlotte. (Noted in June.)

FLOUR, FEED AND MEAL MILLS

Va., Emporium.—A. A. Slagle, Petersburg, Va. (lately noted to build mill), states will construct 40-bbl. 4stand flour mill and install two 4-ft. corn runners for meal; contemplates installing water wheel to develop electricity for flour and corn mill and cotton gin. (See Machinery Wanted—Water Wheels.)

FOUNDRY AND MACHINE PLANTS

Ala., Talladega.—Soil Pipe, etc.—Talladega Pipe & Foundry Co., capital \$30,000, inceptd.; S. C. Oliver, Treas.; R. T. Hicks, Secy.; leased shops and will improve; plans daily capacity 500 tons cast-iron soil pipe, etc.

Fla., Jacksonville.—Packers' Machinery.—Fruit Packers' Equipment Co., capital \$10,000, inceptd.; Douglas P. Smith, Prest.; H. P. Tinsley, V.-P.; Harrison E. Barringer, Secy.-Treas.

Mo., Carthage.—Machinery.—Carthage Foundry and Machine Works will expend \$15,000 on construction of 53x143-ft. fireproof building; contract lately noted let to Love & Martin, 1507 Virginia Ave., Joplin, Mo.; plans by A. Ehlers, Carthage.

Mo., Joplin.—Machinery.—E. A. Martin Machinery Co., capital \$10,000, inceptd. by E. A. and L. M. Martin and Grover C. Jones.

Mo., St. Louis.—Machine Tools.—Bowman-Blackman Machine Tool Co., capital \$20,000, inceptd. by Ralph B. Bowman, G. H. Blackman and H. H. Bowman; will continue and enlarge machine-tool enterprise.

Va., Norfolk.—Structural Shop.—Navy Dept., Bureau Yards and Docks, Washington, D. C., asks bids until Sept. 30 for steel-frame building on wood piles and concrete foundations, with roof slab of gypsum composition and mold loft floor slabs of reinforced concrete or gypsum composition construction; with reinforced roof and mold loft floor slabs; concrete and plastered hollow terra-cotta tile curtain walls, and about 60 per cent. of steel sash for wall areas; at navy-yard.

GAS AND OIL ENTERPRISES

Mo., St. Louis.—Prairie Oil & Gas Co., Tulsa, Okla., is reported to construct additional oil pipe line from Humboldt, Kans., to St. Louis.

Mo., St. Louis.—Oil Refinery.—Roxana Petroleum Co., Tulsa, Okla., is reported to build oil refinery. (See Okla., Tulsa.)

Okla., Durant.—Velva Oil & Gas Co., capital \$100,000, inceptd. by W. C. Caudill, J. D. Abbott and A. Neely.

Okla., Drumright.—Oil Refinery.—Central Refining Co., capital \$15,000, inceptd. by Ethel P. Childers, Perry L. Withers, Milton Compton and others.

Okla., Nowata.—Gasoline.—Ajax Gasoline Co., capital \$500,000, inceptd. by J. W. Sanders of Tulsa, Wm. H. McCrum and John J. McPherson of Kansas City, Mo.

Okla., Oklahoma City.—Gas and Gasoline.—Catoosa Gas & Gasoline Co., capital \$50,000, inceptd. by R. H. Locke, A. J. McMahan and J. L. Pitts.

Okla., Oklahoma City.—Oil Refinery.—Consumers' Refining Co. of Oklahoma, capital \$250,000, inceptd. by J. H. Cline, W. S. Smith, H. A. Jones and J. A. Jones.

Okla., Tulsa.—Zola Oil Co., capital \$50,000, inceptd. by Chas. F. Bisett and Chas. W. Grimes.

Okla., Tulsa.—Gas.—Clover-Dietz Gas Co., capital \$5000, inceptd. by J. M. Clover, H. F. Rethman and J. F. Dietz.

Okla., Tulsa.—Gasoline.—Han-Car Gasoline Co., capital \$10,000, inceptd. by D. L. Carpenter, E. F. Hannon and Albert H. Bell.

Okla., Tulsa.—Roxana Petroleum Co., Tulsa, Okla., is reported to construct oil pipe line from Tulsa to St. Louis, to have daily capacity 2500 bbls.; also reported to build oil refinery at St. Louis.

Tex., Galveston.—Prudential Oil & Development Co., capital \$50,000, inceptd. by S. Dearinger, B. Cowell and J. A. Hawkins.

Tex., Houston.—Union Production Co., capital \$100,000, inceptd. by J. L. Breathwit, M. Lerew and M. F. Allison.

Tex., Houston.—Eagle Production Co., capital \$150,000, inceptd. by M. Larew, J. L. Breathwit and Matt F. Allison.

Tex., Houston.—American Guarantee Oil Co., capital \$100,000, inceptd. by J. M. Singleton, J. O. Ehlinger and M. Koltz.

W. Va., Clarksburg.—H. Shemwell Oil & Gas Co., capital \$10,000, inceptd. by W. G. Stathers of Clarksburg, H. Shemwell and W. O. Tarver of Richmond, Va., and others.

HYDRO-ELECTRIC PLANTS

Ala., Prattville.—Dam.—Clark-Pratt Cotton Mills let contract to rebuild dam washed away by July flood; cost \$25,000.

W. Va., Webster Springs.—Webster Springs Power Co. plans construction of dams on Elk and Gauley Rivers, Webster County.

ICE AND COLD-STORAGE PLANTS

Fla., Anna Maria.—J. C. Talmage, Box 144, is interested in proposed establishment of small ice plant. (See Machinery Wanted—Ice Plant.)

Fla., Lake Butler.—Lake Butler Ice & Electric Co. will install cold-storage plant for meat.

Fla., Plant City.—Plant City Public Service Co., capital \$100,000, inceptd. with John Gribbel, Prest., Philadelphia, Pa.; Rosco Nettles, Secy.-Treas., Tampa; acquired Plant City Ice & Power Co.'s properties and contemplates improvements. (See Electric Plants.)

Fla., Vero.—N. J. Norman of St. George, Ga., will establish ice and electric-light plant.

Okla., Okewah.—Water and Light Dept., A. E. Finney, Supt., contemplates installing ice plant in connection with water and light systems.

S. C., Columbia.—Hendrix, Inc., 1649 Main St., will install \$10,000 3½-ton automatic refrigerator and storeroom; also refrigerator display cases and other sanitary devices for handling meats.

Tenn., Erwin.—Crystal Ice & Coal Co., capital \$25,000, organized; C. W. Bondurant, St. Charles, Va., Prest.; W. W. Remine, V.-P. and Mgr.; W. E. Nucolke, Secy.; bids about Oct. 1 to erect brick building about 40x100 ft.; arranged for machinery; daily capacity 15 tons ice. (See Machinery Wanted—Electrical Equipment.)

Tenn., Kingsport.—Cinchfield Coal & Ice Co. inceptd.; capital \$12,000; W. B. Townsend, Prest.; G. P. Roller, V.-P.; H. W. Johnson, Secy.; Johnson City, Tenn.; W. S. Pearce, Mgr.; W. A. Owen, Johnson City, Constr. Engr.

Tex., Bellville.—Bellville Ice, Light & Power Co. organized with \$30,000 capital; H. Hamilton, Prest.; C. F. Hellmuth, V.-P.; L. A. Machemehl, Secy.; purchased plant of Belleville Promoting Co.; electric light and ice plants; daily capacity ice, 15 tons. (Lately incorrectly noted as "Oil, Light & Power Co.")

Tex., San Antonio.—Mission Ice Co., 236 Rivas St., J. Stricker, Prest., and J. R. Baldwin, Mgr., let contract to Alken & Templin, San Antonio, to construct 30x36x4-ft. fireproof brick ice vault, cost \$10,400; is removing and remodeling present buildings and erecting additional buildings by day labor at cost of \$10,000, making total cost within \$21,000; plans by L. M. J. Dielman, San Antonio; will install ice and refrigerator machinery; daily capacity, 40 tons ice. (Lately noted.)

IRON AND STEEL PLANTS

Ala., Anniston.—Electric Steel Furnaces.—Anniston Properties Co.'s additional steel furnaces, rolling-mill improvements, etc. (lately announced as to cost \$1,000,000), are further described by Jas. Mitchell, 120 Broadway, New York, Prest. of Alabama Power Co., Birmingham, which controls Anniston plant; President Mitchell writes to Manufacturers Record: All six electric furnaces are of Heroult 3-phase type of 30 tons daily capacity; 2 furnaces operating; third in operation by Oct. 1 and other 3 in operation by Dec. 1; Corliss engines formerly driving rolling mills will be replaced by electric motors; mills having cast-iron rolls and housings replaced by others of cast steel made in the Anniston works; one electric furnace now manufacturing ferro-manganese; two 500-ton and one 250-ton forging presses, pumps, accumulators, etc., being installed; presses for making projectile blanks, automobile parts or any other similar work; intend to install continuous oil furnaces for reheating billets and blank forgings; later intend to install Bessemer blower and possibly open-hearth furnace to take metal hot from blast furnaces, finishing up with refining processes in electric furnaces.

IRRIGATION SYSTEMS

Fla., Jacksonville.—Campbell Irrigation Co., capital \$10,000, inceptd.; Anderson Petrovich, Prest.; E. B. Mitts, V.-P.; Phil S. May, Secy.-Treas.

Tex., Plainview.—Texas Land & Development Co. reorganized; C. J. Hubbard, Boston, Mass., Prest.; will complete irrigation project; formerly purchased 60,000 acres for irrigation by pumping water from shallow wells, using gasoline engines and centrifugal pumps of 1200 to 1500 G. P. M. capacity; 60 wells were placed with individual pumping plants having irrigation capacity 120 to 160 acres each; under new organization many new wells will be placed and irrigation machinery installed to complete reclamation of entire tract.

LAND DEVELOPMENTS

Fla., Jacksonville.—Fairland Farms Co., capital \$5000, inceptd.; B. R. Montgomery, Prest.; A. Wightman, V.-P.; G. G. Dockerell, Secy.-Treas.

Fla., Palatka.—Southern Holding & Improvement Co., capital \$10,000, inceptd.; J. W. Darsey, Prest.; E. W. Warren, V.-P.; J. C. McCooklin, Secy.-Treas.

Fla., St. Augustine.—Florida Fertile Lands Co., capital \$5000, inceptd.; I. I. Moody, Prest.; R. L. Neal, V.-P.; H. J. Pelper, Secy.-Treas.

La., Erath.—Erath Nursery & Orchard Co., capital \$25,000, inceptd.; V. L. Caldwell, Prest.; Abbeville, La.; R. J. Boudreaux, V.-P.; F. B. Williams, Secy.-Treas.; both of Erath.

Mo., St. Louis.—McCasland-Harnett Co. of Alton, Ill., purchased 180 acres land and will develop for commercial and residential purposes; will improve streets and construct sewers.

N. C., Farmville.—Lane Land Co., capital \$2500, inceptd. by Eugene Lane, T. H. Rouse and L. T. Moyle.

N. C., Raleigh.—Wake County Cottonseed Co. inceptd., capital \$50,000, by W. A. Simpkins (V.-P.) and others; grow cottonseed.

Okla., Oklahoma City.—Dilworth Townsite Co., capital \$2500, inceptd. by J. H. Grant of Oklahoma City Wm. Mathews, Newkirk, Okla.; J. A. Frates, Jr., Shamrock, Okla., and J. A. Frates, Springfield, Mo.

S. C., Meggetts.—Ashpoo Farms Corp., capital \$5000, inceptd. by Augustine T. Smythe and Eugene J. Prince.

S. C., Meggetts.—Fenwick Farm Corp., capital \$30,000, chartered by Augustine T. Smythe and Eugene J. Prince.

Tenn., Chattanooga.—West-Brow Land Co., capital \$50,000, inceptd. by John L. Newkirk, Jr., P. B. Carter, W. B. Mitchell and others.

Tenn., Memphis.—Grant Improvement Co. inceptd. by John H. Grant, E. R. Kirk, Hattie A. White and others.

LUMBER MANUFACTURING

Ala., Clanton.—John M. Robinson will rebuild planing mill reported burned in August; erect 50x100-ft. building costing \$1000; install equipment.

D. C., Washington.—Thomas W. Smith Lumber Co., capital \$200,000, incptd.; Thos. W. Smith, Pres., Indiana Ave. and 1st St. N. W.; G. Linville Smith, Clifford U. Smith and Harry W. Smith, 1st, 2d and 3d V-Ps., respectively; John B. Harvey, Secy.; Ethel L. Mallinson, Treas.; Geo. Lantel, Mgr.

Ga., Atlanta.—R. W. Barnwell, 621 Candler Bldg., represents operators planning to log 300,000,000 ft. long leaf pine at rate of 40,000,000 to 50,000,000 annually; will award contract.

Ky., Whitesburg.—Interstate Coal & Lumber Co., Elkins, W. Va., purchased 15,000 acres virgin timber land; plans development; at first arrange for construction of narrow-gauge railway to provide transportation facilities from Cumberland Valley branch of Louisville & Nashville Ry.

N. C., Brevard.—O. W. Clayton represents operator planning timber development; contemplates using steel flumes. (See Machinery Wanted—Steel Flumes.)

N. C., Kannapolis.—Kannapolis Lumber Co., capital \$300,000, incptd. by E. L. Lowery, H. L. Leazer and V. C. Lowery.

Tenn., Knoxville.—Company incptd. with \$50,000 capital by Wm. E. Goetz, Tuella M. Goetz and Harry A. Luck; will manufacture cross-ties, etc.; control 12,000 acres land in Reelfoot Lake Dist.

Va., Grundy.—Mitchell Lumber Co., capital \$25,000, incptd.; J. F. Mitchell, Pres., Galherpass, Ohio; A. A. Mitchell, V-P., Blackey, Va.; V. M. Mitchell, Secy.-Treas., Hardy, Ky.

Va., Norfolk.—J. E. Etheridge Lumber Co. will rebuild planing mill reported burned at loss of \$25,000.

MINING

Ala., Birmingham — Zinc. — Birmingham Zinc Co., lately noted incptd., operates in Missouri. (See Mo., Joplin.)

Ark., Eaton.—Mollie L. Mining Co., capital \$5000, incptd. by J. W. Hull, J. B. Butler and R. N. Lloyd.

Mo., Joplin.—Lead and Zinc.—Adirondack Mining Co. will construct 300-ton mill.

Mo., Joplin.—Zinc.—Birmingham Zinc Co., Box 585, Birmingham, Ala., incptd.; capital \$5000; E. T. Beatty, Pres.; H. W. Coffin, V-P.; P. G. Ault, Secy.-Treas.; all of Birmingham; W. H. Beatty, Joplin, Mgr.; develop 15 acres; has machinery.

Mo., Joplin.—Lead and Zinc.—Lucky Shot Mining Co., capital \$50,000, incptd. by J. G. Marcum and B. C. Smith of Joplin, W. A. and L. E. Moses and A. L. Harroun, all of Kansas City, Mo.

N. C., Stony Point.—Asbestos.—Company will be organized to establish asbestos mining and manufacturing plant; plans and specifications to erect and install plant by D. G. Zeigler, Son & Co., Bloomville, S. C. (See Machinery Wanted—Asbestos Machinery.)

Okl., Century.—Concentrating Plant.—Monrent Mining Co. will build 200-ton concentrating plant.

Okl., Oklahoma City.—Asphalt, Limestone, etc.—Interstate Mineral Co., C. W. Dawley, Pres., advises Manufacturers Record: Acquired large body native limestone, asphalt, etc., but not yet decided upon method of development. (In June noted incptd. under McAlester, with \$200,000 capital.)

Tenn., Tazewell.—Iron, etc.—Mountain Operating Co., capital \$1000, incptd. by John P. Davis, Jas. M. King, Ernest M. King and Cary B. Comstock.

Tex., Sam Fordyce—Gravel.—Sam Fordyce Gravel Co., Edinburg, Tex., organized; A. J. Ross, Pharr, Tex., Pres.; C. V. Lysinger, V-P. and Mgr.; R. H. Klossner, Secy.; H. Klossner, Treas.; daily capacity, 20 to 30 cars gravel. (Lately noted incptd., capital \$15,000.)

Tex., Toyah—Sulphur.—Michigan Sulphur & Oil Co. will double output of sulphur mining equipment; present daily capacity, 8 tons.

Va., Lynchburg — Manganese. — Consolidated Manganese Corp., organized; Van Ness Heermance, Pres., Rocky Mount, Va.; H. T. Helver, Gen. Mgr., Lynchburg; C. M. Weld, Consit. Engr., 60 Broadway, New York; mines 6 mi. east of Lynchburg; plans increasing monthly output to 1000 and possibly 1500 tons manganese. (Van Ness Heermance and others noted in June as buying Piedmont Manganese Corp. and to make extensive improvements for greatly increasing output.)

MISCELLANEOUS CONSTRUCTION

Ark., Augusta — Levee. — Directors Gibson Levee Dist., J. H. Snapp, Pres., will build and repair Gibson Levee north of Fitzhugh and west of Tupelo; 50,000 cu. yds. earth excavation; Maj. C. H. Purvis, Engr., Helena. (See Machinery Wanted—Levee Construction.)

Ala., Mobile—Wharves.—Louisville & Nashville R. R., W. H. Courtenay, Ch. Engr., Louisville, Ky., plans improvements to facilitate handling fruit from ships to cars; will rehabilitate fruit wharf; build shed to be equipped with side track, electric hoist, etc.; also build coal docks to be equipped with electric hoists. (Lately noted to invest \$78,000 for dock improvements, hoists, etc.)

Fla., Miami — Dredging. — Government let contract Bowers Southern Dredging Co., Galveston, Tex., at \$4121.50 for dredging and rock removal in Miami harbor. (Lately noted inviting bids.)

Md., Baltimore—Monument.—Francis Scott Key Monument Assn. let contract Chas. H. Niehaus, Sculptor, New Rochelle, N. Y., to construct monument in Fort McHenry Park to memory of Francis Scott Key; white marble; semi-circle bank by marble bench, in center of which is bronze statue; appropriation, \$75,000. (Noted in May to have awarded first prize to Chas. Henry Niehaus, Sculptor, New Rochelle, N. Y., and E. V. Warren, Archt., Brooklyn, N. Y.)

Miss., Vicksburg—Levee.—Third Mississippi River Dist., Maj. J. R. Slattery, U. S. Engr. in charge, let contracts R. T. Clark & Co. of Natchez, Miss.; Roush & Stansell of Memphis, Tenn.; W. T. and F. M. Lowrance of Memphis, Tenn., for levee construction involving 500,000 cu. yds. earth; rejected bids for levee work at Hagman, La., and may undertake construction with Govt. levee machine.

Tex., Corpus Christi—Waterfront Improvements.—City contemplates improvements, including seawall 13,900 ft. long; bay front boulevard to be divided by sidewalk and parkway, 30-ft. street, esplanade 240 ft. wide, and another 15 ft. sidewalk, parkway and wall space, making 300 ft. in width, and extending along city's length; wall estimated to cost within \$140,000, and fill within \$100,000. Address The Mayor.

W. Va., Martinsburg—Mausoleum.—Central Mausoleum Co., Frank Weekly, Mgr., Carlisle, Pa., will build mausoleum; has office at No. 2 Ramsey Bldg., Martinsburg.

MISCELLANEOUS ENTERPRISES

Ala., Birmingham — Supplies. — Iron City Supply Co., capital \$4500, incptd. by M. J. Gerson, D. Goldstein and H. I. Goldstein.

Ala., Ensley—Slag Crushing and Screening. Birmingham Slag Co., H. G. Ireland, V-P. and Gen. Mgr., 1607 Jefferson County Bank Bldg., has plans about ready for lately noted plant to crush and screen slag; capacity 3000 to 4000 tons daily; construction probably by the company; will purchase materials and machinery in Nov. (See Machinery Wanted—Crushing and Screening Plant.)

Ala., Talladega—Bottling.—Shocco Springs Co., capital \$10,000, incptd. by W. F. Slaughter, W. B. Harrison, R. W. Henderson and others to develop Shocco Springs mineral springs

Fla., Fort Pierce—Laundry.—Fort Pierce Steam Laundry will erect frame building for laundry; later will erect concrete building.

Fla., Sanford — Electrical Supplies. — Charles Electric Co., capital \$5000, incptd.; T. O. Charles, Pres.; W. W. Fry, V-P.; Schelle Maines, Secy.-Treas.

Ga., Atlanta—Contracting.—American Water-works Construction Co. incptd. with capital \$25,000.

Ky., Louisville—Printing and Publishing.—Smith & Dugan, capital \$25,000, incptd. by Geo. E. Smith, Martin Dugan and Frank Dugan.

Ky., Louisville—Laundry.—Crystal-Standard Laundry increased capital from \$33,000 to \$40,000.

Miss., Meridian—Contracting.—Good Roads Surfacing Co., capital \$10,000, incptd. by Walter G. Hodges, R. J. Patterson, W. G. Shurgar and C. M. Wright.

Mo., St. Louis—Engineering.—Sunkel Engineering Co., capital \$3000, incptd. by Emil C. Sunkel, Beatrice F. and Louise Sunkel.

Mo., St. Louis—Contracting.—Aetna Brick-laying & Construction Co., capital \$4000, incorporated by Fred G. Uthoff, Richard Munzlinger and Jas. J. Seeley.

N. C., Charlotte — Construction. — Stroupe Construction Co., capital \$50,000, incptd. by

J. D. Stroupe, H. C. Sherrill and Mrs. Betty King Sherrill.

N. C., Spray—Laundry.—Sun Laundry Co., capital \$6000, incptd. by E. E. Emerson, G. C. Gammon and D. F. King.

N. C., Wilmington.—Standard Cement Construction Co., lately noted incptd., capital \$15,000, manufactures septic tanks, etc. (See Concrete and Cement Plants.)

Okl., Tulsa—Construction.—Lawlor Construction Co., capital \$5000, incptd. by J. E. Lawlor, Catherine R. Lawlor and Pat Malloy.

S. C., Lake City — Hardware. — People's Hardware Co., capital \$5000, incptd. by R. P. Schofield and Mrs. Ivey Marshall Schofield.

Tenn., Chattanooga — Transfer. — Campbell Transfer Co., capital \$5000, incptd. by W. A. Campbell, S. F. Mitchell, Burkett Miller and others.

Tex., Beaumont—Transfer.—Texas Transfer & Teaming Co., capital \$10,000, incptd. by H. W. Gardner, A. G. Caston and J. W. McCracken.

Tex., Waco—Printing.—Hill Printing & Stationery Co. will occupy building to be erected by R. C. Allen, Hearne, Tex.; structure will be 75x165 ft.; 1 story; brick; stone trimmings; concrete flooring; cost \$35,000 to \$40,000; reported that J. F. Carson will be awarded contract.

Va., Lynchburg—Abattoir.—M. R. Scott contemplates building abattoir.

Va., Richmond—Dairy.—Richmond Dairy Co. will erect 1-story brick addition to plant on Marshall St.; cost \$5000.

MISCELLANEOUS FACTORIES

Ala., Birmingham — Bottling. — Nectar Co., capital \$10,000, incptd.; J. L. Gerson, Pres.; Walter S. Brower, V-P. and Gen. Counsel; B. D. Ansley, Secy.

Ala., Dothan — Bottling. — Lime-Cola Co., capital \$3500, incptd. by J. R. Keyton, J. A. Keyton and G. E. Warrick.

Ala., Opelika — Syrup Refinery. — B. E. Brownfield, care of Brownfield Hardware Co., is interested in proposed installation of syrup-refining plant. (See Machinery Wanted—Syrup Refining Machinery.)

D. C., Washington—Paper.—District of Columbia Paper Mfg. Co., lately noted as to erect plant to cost \$200,000, advises Manufacturers Record that all orders for new building, machinery, supplies, etc., have been placed.

Fla., Bradentown—Brushes.—Bradentown Brush Co., capital \$15,000, organized with H. Wadham, Pres.; S. H. Bean, V-P.; O. L. Stuart, Secy.; R. R. Fenton, Treas.; Wm. Schlect, Gen. Mgr.

Fla., Dade City—Creamery.—E. Tomax may establish creamery; manufacture butter, cheese, etc. (See Machinery Wanted—Creamery Equipment.)

Fla., Jacksonville — Monuments. — Clark Monument & Stone Co., capital \$22,000, incorporated; F. W. Long, Pres.; J. D. Naughton, V-P.; J. E. Manney, Secy.-Treas.

Fla., Jacksonville—Motion-picture Films.—Garrick Studio Co., Richard Garrick, Pres. and Gen. Mgr. (In July noted organized with \$100,000 capital, etc.), and Southeastern Film Corp., John T. Alsop, Jr., Pres. (In Aug. noted incptd., capital \$300,000), leased roof of Union Terminal building, 600x120 ft. and 5 stories high; 2 additional elevators will be installed to provide for studio traffic; roof space will allow 25 companies to work on pictures at same time.

Fla., Lake City—Cigars.—Lopez Cigar Co., capital \$3000, incptd.; A. J. P. Julian, Pres.; R. R. Lake, Secy.; J. A. Leslie, Treas.

Fla., St. Petersburg—Castor Oil.—Chas. J. Maurer is interested in organization of company to manufacture oil and other by-products from castor beans.

Fla., Tampa—Shipyards.—Tampa Foundry & Machine Co., Ernest Kreher, Pres., is reported to increase capital from \$125,000 to \$500,000 and build additional plant with facilities representing an investment of \$500,000 for complete shipyards.

Ga., Americus—Syrup, etc.—Farmers' Products Co. organized by Americus Grocery Co., Glover Grocery Co. and Moreland-Jones Grocery Co.; will establish plant to manufacture syrup, etc.; Ralston Cargill of Columbus, Ga., will be in charge.

Ga., Athens—Chemicals.—Oconee Alkali & Chemical Co., capital \$100,000, incptd. by E. R. Hodgson, Jr., Harry Hodges, both of Athens, and J. S. Brogdon of Atlanta.

Ky., Covington—Barium Products.—The Stevens-Nixon Chemical Co., Geo. E. Nixon, Secy., 609 Mercantile Library Bldg., Cincinnati, O., will build plant and install equipment to manufacture barium products;

include carbonate, chloride, chlorate, nitrate, sulphate, sulphide and sulphite; sodium sulphate, sulphide and sulphite; lithopone; several by-products.

Ky., Louisville—Ice Cream.—Cuscaden's Ice Cream Works, capital \$10,000, incptd. by Geo. W. Cuscaden, Sr., and others.

Ky., Louisville—Salve, etc.—Westerman Remedies Co., 1534 Christy Ave., organized; J. C. Kirchdorfer, Pres.; Wm. J. Sandmann, V-P.; B. J. Sandmann, Secy.; Jos. Kirchdorfer, Jr., Treas.; manufacture pine tar salve, liniment, etc.; has building. (Lately noted incptd., capital \$5000.)

La., New Iberia—Sugar Refinery.—Burguires Co. will build sugar refinery rumored to cost \$50,000.

La., New Iberia—Paper.—Chamber of Commerce interested in plan to organize company for manufacturing paper from bagasse, waste at sugar mills; A. C. Bernard, Secy., writes to Manufacturers Record: Not in position to give information at this time.

Mo., Kansas City—Hotel Kitchen Equipment.—Stoeker-Smith Mfg. Co., capital \$20,000, incptd. by Arnold L. Stoeker, Wright Smith and Sam M. Woodson.

Mo., St. Louis—Paper Boxes.—Geo. V. Steffens Paper Box Co., capital \$5000, incptd. by Geo. V. Steffens, Lewis R. Milliken and J. B. Bernhardt.

Mo., St. Louis—Electrical Devices.—Fore Electrical Mfg. Co., capital \$10,000, incptd. by Albert Wehmeler, J. H. McEwen and L. R. Brown to manufacture electrical measuring equipment and mechanical devices.

Mo., St. Louis—Caps.—Unio Cap Co., 16th and Morgan Sts., leased fourth floor, 100x155 ft. of building at 14th and Locust Sts.; will install machinery to manufacture caps.

N. C., Charlotte—Skirt Supporters.—French Skirt Supporter Co., capital \$5000, incptd. by J. Russo, Vito Grisanti and L. Russo.

N. C., Charlotte — Creamery. — Charlotte Creamery Co., capital \$50,000, incptd. by Lars Haslerud and W. R. Foreman of Charlotte and W. J. Shuford, Hickory, N. C.

N. C., Durham—Bottling.—Durham Coca-Cola Bottling Co., capital \$10,000, incptd. by W. H. Rand of Durham, J. B. Harrison of Greensboro, N. C., and Mrs. D. T. Poindexter of Raleigh, N. C.

N. C., Gastonia—Gloves.—C. W. Roberts, Secy., Chamber of Commerce, is interested in proposed establishment of factory for canvas gloves. (See Machinery Wanted—Glove Machinery.)

N. C., Gastonia—Overalls.—C. W. Roberts, Secy., Chamber of Commerce, is interested in proposed establishment of factory for overalls. (See Machinery Wanted—Overall Machinery.)

N. C., Greensboro—Breakfast Cereal.—Cledenin-Saunders Wheat Cereal Co. incptd. by H. W. Cledenin and others, capital \$25,000, to manufacture breakfast cereal. (See Machinery Wanted—Paper Box Machinery and Supplies.)

N. C., Lucama—Drugs.—Lucama Drug Co., capital \$5000, incptd. by R. H. Patterson and D. J. Patterson of Wilson, N. C., and J. C. Rice, Wakefield, N. C.

N. C., Salisbury—Drugs.—Empire Drug Co., capital \$50,000, incptd. by J. B. Marsh and S. O. Brewer of Salisbury and A. J. Klutz of Greensboro, N. C.

N. C., Tarboro—Laundry.—D. E. Braswell is interested in proposed installation of steam laundry. (See Machinery Wanted—Laundry Machinery.)

N. C., Wilson—Tobacco Redrying.—R. J. Reynolds Tobacco Co. (main office, Winston-Salem, N. C.) is reported to build redrying plant.

S. C., Camden—Bottling.—Merchants' Bottling Co., capital \$2000, incptd. by W. T. Smith, J. P. Lewis and B. D. Trapp.

S. C., Greenville—Bottling.—Orange Whistle Co., capital \$10,000, incptd. by C. W. Elias, W. A. Yates and J. F. Eppes.

S. C., Rock Hill—Brooms and Mattresses.—R. W. Hawley (temporary office in Roddy Pebble-Dash Bldg.) contemplates erecting \$5000 broom and mattress factory.

Tenn., Memphis—Chewing Gum.—N. J. Baer, 23 S. Idlewild St., will be Pres. and F. D. Grantham V-P. of company to establish lately-noted chewing-gum factory; will install machinery; capacity 1,000,000 pieces per month.

Tenn., Winchester — Medicine. — Tennessee Medicine Co., capital \$5000, incptd. by J. C. Hale, W. P. Hall, Will E. Walker and others.

Tex., Bay City—Peanut Oil.—V. H. Sledge, M.E., Bay City, Tex., is interested in proposed installation of peanut-oil mill. (See Machinery Wanted—Oil (Peanut) Machinery.)

Tex. Bryan-Bottling.—Bryan Ice Co. will build bottling plant.

Tex., Dallas—Products.—Southern Products Co., capital \$10,000, inceptd. by M. H. Thomas, Jr., G. L. Cade and S. F. Cade.

Tex., El Paso—Brooms.—Glenn Broom Mfg. Co., capital \$10,000, inceptd. by W. H. Glenna, Lee H. Ohndorff and D. A. Arnold.

Va., Cedar Level, P. O. at Hopewell—Overalls.—J. F. Manning of Manufacturing Development Assn., Detroit, Mich., is reported as planning establishment of overall factory.

Va., Lynchburg—Mattresses.—National Mattress Co., 608 Salem St., W. T. McNamara, Jr., Prest. and Gen. Mgr., will re-establish plant noted burned; manufacture mattresses, pillows and cushions; also jobbers of brass, iron beds and springs.

Va., Radford—Enterprise Mfg. Co., capital \$50,000, inceptd.; W. F. Flanagan, Prest., Christiansburg, Va.; Frank J. Wells, Secy., Radford.

Va., Richmond—Payne Mfg. Co., capital \$25,000, inceptd.; David E. Anthony, Prest., 622-624 Bond Bldg.; Lewis G. Ripley, Secy., Treas.; both of Washington, D. C.

W. Va., Logan—Films.—Mountaineer Film Co., capital \$25,000, inceptd. by O. J. Deegans, G. T. Swan, H. S. Gay, Jr., and others.

W. Va., St. Albans—Chemicals.—Roissler & Hassalacher Chemical Co., Perth Amboy, N. J., will build \$1,000,000 plant to manufacture chemicals used in alloys; construct many buildings; 80 to 100-acre site 2 mi. below St. Albans.

MOTOR CARS, GARAGES, TIRES, ETC.

Ala., Gadsden—Garage.—Gadsden Overland Co. (Gueron DuBoise and Waverly Smith, Mgrs.) will occupy garage which W. S. Moyers has contract to erect; structure will be 90x125 ft.; plateglass windows; capacity, 50 cars; plans by A. D. Simpson.

Ark., Little Rock—Automobiles.—H. I. Holderness Co., capital \$20,000, inceptd. by H. I. Holderness, Fred E. Niven and Harvey Allen.

Ark., Little Rock—Garage, etc.—Green Motor Car Co., A. B. Cox, Prest., will expend \$15,000 to construct 2-story brick and concrete salesroom and garage for Studebaker cars; plans by Theo. Sanders, Little Rock; bids opened Sept. 25; J. W. Green, Secy. of company, 517 W. Markham St. (Lately noted.)

Ark., Wynne—Garage and Salesroom.—Dave Block let contract to O. C. Beamon, Wynne, to construct lately noted garage and salesroom after plans by W. C. Lester, Scimitar Bldg., Memphis, Tenn.; 69x129-ft. brick structure; cost \$2500; gravel roof; concrete floor; electric lighting.

Fla., Miami—Garage.—Carl G. Fisher will erect 30x70-ft. garage after plans by August Geiger, Miami; cost \$7500; concrete and hollow tile walls; tile and compo built-up roof; concrete floor; bids opened Sept. 19.

Ga., Macon—Garage.—Water Comms. let contract C. Hays to erect brick garage.

Ky., Mt. Sterling—Garage.—L. E. Griggs, S. S. Pinney and W. P. Oldham will erect brick garage.

Ky., Paducah—Automobiles.—Gus Edwards Motor Sales Co., capital \$5000, inceptd.; G. W. Katterjohn, Prest.; Mrs. G. W. Katterjohn, V.-P.; Gus Edwards, Secy., Treas. and Mgr.

La., New Orleans—Automobile Building.—Jeffery Sales Co. of Louisiana leased building to be erected by Pokorny estate, Inc., for automobile salesrooms, garage and service station; structure will be 1 story; fireproof; brick; cost \$10,000.

Mo., St. Louis—Automobiles.—Lafayette Motor Car Co., capital \$5000, inceptd. by Milton B. Strauss, Wukshu H. Anderson and Jesse A. Wolfert.

Mo., Webb City—Garage.—Mr. Bartlett let contract to Love & Martin, 1507 Virginia Ave., Joplin, Mo., to erect 70x140-ft. garage; cost \$10,000.

N. C., Charlotte—Automobiles.—Hinkle & Wheaton, capital \$10,000, inceptd. by R. M. Wheaton, G. F. Hinkle and S. J. Sloan.

N. C., Mount Airy—Garage.—J. M. Fulton and Chas. Fulton contemplate erecting garage.

Okla., Bristow—Garage.—R. L. Jones is having plans and specifications prepared for garage to replace structure lately noted burned at loss of \$20,000; 70x140 ft.; brick and concrete; capacity, 100 to 125 cars; repair shop; Meritt Delano, Mgr.

S. C., Charleston—Automobiles.—Auto Livery Co., capital \$5000, inceptd.; A. C. Connelly, Prest.-Treas.; Wm. Burgason, V.-P. and Secy.

S. C., Charleston—Garage.—Economy Auto

Shop inceptd. by B. F. Robinson and M. E. Robinson.

S. C., Spartanburg—Garage Addition.—Horace L. Bomar let contract to Geo. Wall to erect addition to garage; cost \$4000; brick construction; tar and gravel roof; cement floor; steam heat; plans by L. D. Proffitt, Spartanburg.

Tenn., Knoxville—Automobiles.—Knoxville Motor Co., capital \$10,000, inceptd. by W. T. Rowe, J. E. Dupes, O. A. Kohlbase and others.

Tenn., Nashville—Automobiles.—Rutherford Auto Co., capital \$10,000, inceptd. by A. G. Rutherford, D. E. Rutherford, J. W. Rutherford and others.

Tex., Plainview—Garage.—Hupp Motor Sales Co. will erect garage and storage rooms; brick; cost \$8000; Harrison & Kerr, Contr.

Tex., Waco—Automobile Display Room.—Directors Cotton Palace will erect building for display of automobiles and automobile accessories.

Tex., Waco—Automobile Tops.—Chas. Weisch will equip building (to be erected by Asa Warner) for manufacture of automobile tops; structure of brick with 50-ft. frontage.

Va., Norfolk—Automobiles.—King Sales Corp., capital \$50,000, chartered; E. L. King, Prest., Norfolk; M. E. Volke, Secy., Washington, D. C.

W. Va., Charleston—Automobiles.—Inter-State Transit Co., capital \$20,000, inceptd. by S. H. Bowman, J. H. Strickling, C. W. Strickling and others.

W. Va., Parkersburg—Automobiles.—H. Marsh & Co., capital \$10,000, inceptd. by H. Marsh, K. V. Marsh, C. T. Smith and others.

RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

Ky., Louisville—Illinois Central Ry., W. H. Courtenay, Ch. Engr., Louisville, has plans to construct 6-stall locomotive roundhouse, costing \$15,000.

N. C., Salisbury—Southern Ry., B. Herman, Ch. Engr., Washington, D. C., will erect all-steel car shed 110x500 ft.; 2 stories; adjoining shop 50x100 ft.; now receiving foundation bids; equip shed with overhead cranes, etc.; install machine tools for car repairs in shop; electric power from local transmission system; construct transformer house.

Va., Alexandria—Southern Ry., W. H. Wells, Engr., Constr., Washington, D. C., will construct engine terminal improvements; 20-stall roundhouse; 100-ft. turntable; mechanical coal handling plant of 100,000 tons' storage capacity; electrically-operated chiller pits; water tank; sand plant; small repair shop; storehouse for oil, etc.; wash and locker-room; tracks; has let contract for foundation work for roundhouse and turntable to J. P. Pettyjohn & Co., Lynchburg, Va.

ROAD AND STREET WORK

Ala., Athens—Limestone County Comms., G. Malone, Judge of Probate, Chrmn., will construct lately noted dirt and gravel roads by force account; about \$9000 available; C. M. Farron, County Engr., Athens.

Ala., Birmingham—City Com. ordered paving of 11th Ave. north from 30th to 32nd Sts. to cost \$10,000.

Ala., Gadsden—City will construct bituminous paving on 5th St. from Chestnut to Cherry St. and on 4th St. from Chestnut to top of Moragne Hill. Ernest Smith, City Engr.

Ala., Gadsden—City let contract to Chas. O. Duncan, Gadsden, to construct 2116 sq. yds. sidewalk and 175 ft. curb and gutter; \$2000 available; Ernest Smith, City Engr. (Bids lately noted.)

Ala., LaFayette.—Chambers County will grade, drain and surface with top soil part of State Trunk Road No. 13 from near Fairfax Cotton Mills to Lee County line; cost \$5000; bids until Oct. 20; W. S. Keller, State Highway Engr., Montgomery, Ala. (See Machinery Wanted—Road Construction.)

Ark., Arkansas City—Desha County Commissioners have plans by Hugh R. Carter, State Highway Engr., Little Rock, Ark., for gravel road from Arthur through McGee to Chicot County line; 10 mi.; cost \$50,000.

Ark., Benton—Saline County Comms. have plans by Hugh R. Carter, State Highway Engr., Little Rock, Ark., for 19 mi. of road construction to cost \$17,000.

Ark., Conway.—Hugh R. Carter, State Highway Engr., Little Rock, Ark., completed plans and specifications for gravel road from

Conway to Sallito, Faulkner County, to cost \$35,000.

Ark., Conway.—Faulkner County Comms. have plans and estimates for proposed road-improvement district from Conway to Sallito, 8.07 mi.; gravel; includes steel bridge across Palarm Creek; estimated cost \$37,480.50.

Ark., Corning.—Clay County Comms. will construct road from Rector; length, 6 mi.; surveys made.

Ark., Dardanelle.—Sidewalk Improvement Dist. No. 1, W. L. Fowlkes, Secy., has plans and specifications completed by Winters & Dove, Fort Smith, Ark., for concrete sidewalk construction; includes 135, 140 sq. ft. 5-ft. walk, 24,704 sq. ft. 8-ft. walk, 3229 lin. ft. 4, 5 and 8-ft. cross walk, and 117 gutter boxes; all single course work; date of letting to be announced upon approval of bonds.

Ark., Evening Shade.—Hugh R. Carter, State Highway Engr., Little Rock, Ark., completed plans and specifications for 50-mi. gravel road across Sharp County from Wirth to Hardy and Cave City to cost \$85,000.

Ark., Harrisburg.—Polk County Commissioners have plans by Hugh R. Carter, State Highway Engr., Little Rock, Ark., for graded road from Marked Tree to Mississippi County line; 16 mi.; cost \$38,000.

Ark., Pocahontas.—Randolph County Commissioners are having preliminary surveys made for road from Biggers to Maynard.

Ark., Texarkana.—City will improve Paving Improvement Dist. No. 20, Paul Huckins, Secy.; E. F. Petersen, Chief Engr.; bids until Oct. 30; construction includes grading, curbing, guttering, storm sewers, etc. (See Machinery Wanted—Paving.)

Ark., Van Buren.—City, Paving Dist. No. 2, will construct about 20,000 sq. yds. asphaltic or asphaltic concrete paving; surveys being made; J. E. Powers, Commr.; Winters & Dove, Engrs., Fort Smith, Ark.

D. C., Washington.—Government will construct concrete roads and curbs on premises of Bureau of Standards, Dept. of Commerce, received bids until Sept. 25. (See Machinery Wanted—Road Construction, etc.)

D. C., Washington.—Dist. Comms., Dist. Bldg., will grade and improve streets, road and avenues; bids until Oct. 10. (See Machinery Wanted—Paving.)

Fla., Brooksville.—City will construct 7140 sq. yds. asphaltic concrete paving and 5540 ft. concrete curb; \$9400 available; open bids Oct. 19; Hiram McElroy, Engr., Tampa; noted in Aug. (See Machinery Wanted—Paving.)

Fla., De Land.—City will pave certain streets; 24,000 sq. yds. Dunn wire cut lug paving brick, 17,464 lin. ft. granite or concrete curb, 5760 lin. ft. wooden curb, 310 ft. 18, 15 and 12-in. pipe; bids until Oct. 1; J. B. McCarty Co., Engr., Third National Bank Bldg., Atlanta, Ga.; John MacDiarmid, Mayor; date of opening bids postponed from Sept. 1; lately noted. (See Machinery Wanted—Paving.)

Fla., Milligan.—Okaloosa County Comms. will organize special road and bridge district and issue bonds to construct roads; \$14,000 to be appropriated from federal road fund. (Lately noted.)

Fla., Panama City.—Bay County voted \$75,000 bonds to construct 15-ft. cement highway from Panama City to Parker, encircling St. Andrews Bay and passing Lynn Haven, St. Andrews, Millville and East Millville; also gravel road connecting Panama City and Lynn Haven with highway system in northern part of county and clay roads throughout county costing \$75,000. Address County Comms. (Noted in Aug. to vote.)

Ky., Covington.—City votes Nov. 7 on \$500,000 bond issue for following improvements: Erecting of traffic bridge across Licking River, cost \$40,000; boulevard through Willow Run, \$80,000; extending Holman St., \$20,000; other steel extensions, \$85,000; also paving. Address The Mayor.

Ky., Harlan.—City will macadamize Elm, Central, Mound, Main, Clover and 1st Sts. Address The Mayor.

Ky., Hopkinsville.—Christian County Commissioners, L. J. Harris, Clk. County Court, asks bids until Oct. 3 for road construction; estimated cost \$45,000; includes Sec. 7, Greenville Rd., 12 mi. resurfacing; Sec. 8, Julien Rd., 9 mi. resurfacing; Sec. 9, Gracey Rd., 9 mi. new macadam; Chas. Folsom, Engr., County Bldg., Hopkinsville. (See Machinery Wanted—Road Construction.)

Ky., Lexington.—City let contract Carey-Reed Co. of Lexington to pave roadway of Cramer Ave. from Walton Ave. to Mentelle Park and Arceme Ave. from Limestone St. to Bryan Station pike with asphalt; com-

bined cement curb and gutters. (Lately noted inviting bids.)

Ky., Owensboro.—Davies County will construct 16 mi. roads of stone, gravel or bituminous surface; County Comms. receive bids until Sept. 29; J. W. Spurrier, County Engr.; one of series of contracts to be let under \$600,000 bond issue. (See Machinery Wanted—Road Construction.)

La., Rayville.—Richland Parish Police Jury postponed election on road bonds. (Noted in Aug. to vote Sept. 16 on \$130,000 bonds for gravel roads and concrete bridges.)

Md., Baltimore.—City will construct cement footways around city property in various portions of city; bids until Oct. 4; R. M. Cooksey, Highways Engr. (See Machinery Wanted—Paving.)

Md., Baltimore.—City votes Nov. 7 on \$2,000,000 loan to continue street improvement in Annex and \$1,000,000 to continue street improvements in old city limits; former to be expended under supervision of Comms. for Opening Streets and Annex Com.; R. M. Cooksey, Highways Engr.

Md., Baltimore.—City will pave Guilford Ave. from University Parkway to Southway; Contract No. 148; 1600 sq. yds. sheet asphalt paving and 2000 cu. yds. grading; bids until Oct. 4; John H. Robinette, Prest. Comms. for Opening Streets. (See Machinery Wanted—Paving.)

Md., Baltimore.—City let contracts to pave about 100 alleys to cost \$47,000 as follows: Continental Contracting Co., at \$26,325; Shing-luff Browne Co., 1405 Munsey Bldg., at \$11,509.36; and Arundel Construction Co., 329 S. Caroline St., at \$8348.26.

Md., Baltimore.—State Roads Commission, Garrett Bldg., let following contracts: Maryland Amelate Stone Co., 15 E. Fayette St., Baltimore, at \$29,491.10 to construct section Reisterstown Rd. between Reisterstown and Carroll County line, 2.53 mi., oil-bound macadam; W. J. Stover, Phoenix, Md., at \$922 to construct concrete shoulders on Baltimore and Washington Blvd.; Whiting-Turner Construction Co., Sexton Bldg., Baltimore, at \$27,008.30, 4.17 mi. road between Masons Springs and Ripley, Charles County, gravel construction. (Lately noted inviting bids.)

Md., Ellicott City.—Howard County Commissioners, M. J. Sullivan, Clerk, will construct 3.77 mi. upon or along Vineyard and Rolling Roads; bids until Oct. 3. (See Machinery Wanted—Road Construction.)

Md., Rockville.—Montgomery County Commissioners let contract G. B. Mullin Co., 14th and Kennedy Sts., Washington, D. C., at \$20,500 to continue State road from Dawsenville to near Realsville, 2 mi.

Md., Salisbury.—Wicomico County will construct 2 sections State-aid Highway upon or along Jersey Rd. between Salisbury and Delmar, 2 mi.; bids until Oct. 10; H. M. Clark, Roads Engr. (See Machinery Wanted—Road Construction.)

Miss., De Kalb.—Kemper County Highway Comms., Supvrs.' Dist. No. 5, will let contract Oct. 11 to grade, rock and drain 30 mi. road; also for about 100 bridges—cement and concrete; Engrs., Snowden & Hauser, Jackson and Columbus, Miss.; noted in August. (See Machinery Wanted—Road Construction.)

Miss., De Kalb.—Kemper County Highway Com., Supvrs.' Dist. No. 1, will grade, rock and drain 30 mi. road; let contract Oct. 11; Engrs., Snowden & Hauser, Jackson and Columbus, Miss.; surveys noted in August. (See Machinery Wanted—Road Construction.)

Miss., Holy Springs.—Marshall County Comms., Marianna Road Dist., ask bids until Oct. 5 to construct about 14 mi. sand-clay roads, with bridges and culverts; issue \$25,000 bonds; Walter G. Kirkpatrick, Engr., 704 Farley Bldg., Birmingham, Ala.; lately noted. (See Machinery Wanted—Road Construction.)

Miss., Laurel.—City will pave Magnolia St. from 5th to 7th St. with asphalt; City Comms. open bids Oct. 2.

Miss., Yazoo City.—Yazoo County Comms. have \$163,000 available for construction of roads in Beat 3.

Miss., Yazoo City.—Yazoo County Comms. have \$70,000 available for construction of roads in Beat 5.

Mo., Kansas City.—J. C. Nichols let contract Smith & Murphy to grade 2 mi. of driveway in Mission Hills between 55th and 59th Sts.

Mo., Springfield.—Springfield Eight Mile Road Dist., Will J. McDaniel, Commr., City Comms. and Greene County Comms. will construct 8 mi. of boulevard.

Mo., St. Charles.—City will pave section of Depot St. with vitrified brick; bids until Oct. 9; also open bids on same date to construct sidewalks, curb and gutter on Jackson St. from 6th to 8th St. Address The Mayor.

Okla., Arapahoe.—Custer County Comms. contemplate ordering election to vote on \$500,000 bonds to construct roads.

Okla., Tulsa.—Tulsa County Comms. will construct 20 ft. hard surfaced road from city limits to county limits on road to Sapulpa; cost \$30,000 to \$35,000.

N. C., Wilkesboro.—Wilkes County Good Roads Com. organized with R. Don Laws of Moravian Falls, N. C., Chrmn., and H. W. Horton, North Wilkesboro, Secy.; will at once proceed with road plans and engage engineer. (Wilkes County lately noted voting \$250,000 bonds to construct roads.)

Tenn., Lawrenceburg.—Lawrence County Highway Com., E. G. Parkes, Secy., let contract Boyd Williams, McMinnville, Tenn., at \$136,000 to construct Jackson Military Road through county; length, 36 mi.; width, 33 ft.; graded with bed of chert 15 ft. wide; R. M. Barker, Engr. (Lately noted inviting bids.)

Tenn., Morristown.—City let contract Gibson Construction Co. to pave streets in Dist. No. 10, including portions of Henry, 6th, North and Jackson Sts. (Noted in August as inviting bids.)

Tenn., Shelbyville.—Bedford County defeated \$350,000 bonds for road construction. (Noted in August.)

Tenn., Shelbyville.—Bedford County defeated bonds for road construction. (Noted in Aug.)

Tex., Brownsville.—Cameron County, Dist. No. 7, will vote on \$15,000 bonds for road improvements. Address County Clk.

Tex., Cameron.—Milam County Comms. organized Road Bond Dist. No. 7, embracing territory around San Gabriel, and ordered election to vote on \$15,000 bonds to improve and construct roads.

Tex., Kountze.—Hardin County will clear, grub and grade road 12 mi. long from Silsbee, Tex., to Tyler County line; Highway Commission and Comms. Court received bids Sept. 27; Myers & Noyes, Ch. Engr.; W. W. Dies, County Judge. (See Machinery Wanted—Road Construction.)

Tex., Mount Pleasant.—City, J. F. Wilkinson, Mayor, rejected bids received Sept. 18 for street paving; \$15,000 available; Engr., H. S. Wilder Co., Mt. Pleasant. (Bids lately noted.)

Tex., San Antonio.—Toll Road Co., W. H. Furlong, Secy., will construct road to Medina Dam; cost \$40,000; C. X. Gutzelt will supervise construction; A. Y. Walton, Engr.

Va., Covington.—Alleghany County Supvs. will improve 49 mi. road Covington Dist.; \$100,000 (bonds) available; B. A. Marshal, Clifton Forge, Va., Engr. (Lately noted.)

Va., New Kent.—New Kent County will construct sections of Williamsburg Rd.; also reinforced concrete bridge, 20-ft. span, known as "Trunk Bridge"; County Comms. receive bids until Oct. 3; G. P. Coleman, State Highway Commr., Richmond, Va. (See Machinery Wanted—Road and Bridge Construction.)

Va., Princess Anne.—Princess Anne County, Kempshire Magisterial Dist., B. W. Shelton, R. F. D. Norfolk, Va., official in charge, will construct 15 mi. gravel and sand-clay roads; \$130,000 available; Engr., State Highway Commission, Richmond. (In August \$130,000 bonds noted authorized.)

Va., Richmond.—Government let contract Perkinson & Finn, Petersburg, Va., at \$20,000 to construct 4 mi. top soil sand-clay road in Chopawamsic Swamp between Washington and Richmond. (Lately noted inviting bids.)

W. Va., Hinton.—Summers County, Talcott Dist., has \$65,000 available for road improvements; grade, drain and surface with water-bound macadam, tarvia macadam, blast-furnace slag or concrete; J. D. Pence, Dist. Committeeman, Pence Springs, W. Va. (See Machinery Wanted—Road Construction.)

W. Va., Logan.—Logan County, Logan Dist., Bruce McDonald, Prest. County Court, will issue \$200,000 bonds to build and improve roads. (Bonds noted voted in April.)

W. Va., Pennsboro.—City will grade, curb and pave streets, alleys and avenues; bids until Oct. 20; voted \$25,500 bonds for paving and sewer construction; John B. Yates, City Clerk. (See Machinery Wanted—Paving.)

W. Va., Piedmont.—Mineral County Commissioners, Keyser, W. Va., let contract Atlantic Bitulthic Co., Richmond, Va., at about \$7000 to construct 3600 sq. yds. street

paving in Piedmont. (See Road and Street Work, W. Va., Keyser.)

W. Va., Keyser.—Mineral County Comms. let contract Harry F. Smith of Piedmont, W. Va., at \$45,840 to construct 16,700 sq. yds. roads in Piedmont Dist.; also to Atlantic Bitulthic Co., Richmond, Va., at about \$7000 to construct 3600 sq. yds. street paving in Piedmont; \$85,000 bond issue voted. (Lately noted.)

W. Va., Wellsburg.—Brooke County asks bids until Oct. 29 on 10.5-10 mi. road construction, this being part of general system of road improvements for which \$800,000 bond issue was noted voted in June; C. A. Nicheilberger, County Engr., Wellsburg. (See Machinery Wanted—Road Construction.)

SEWER CONSTRUCTION

Ala., Tuscaloosa.—City let contract Mat Maxwell of Tuscaloosa at \$10,531.68 to construct storm sewers; W. H. Nicol, City Engineer. (Noted in August as inviting bids.)

Ga., Manchester.—City voted \$45,000 bonds to construct sewer system and water-works. Address The Mayor. (Noted in July to vote.)

Ky., Lexington.—City Comms. adopted plans and specifications submitted by W. H. McCorkle of Dept. of Public Works for Northside storm-water sewer; cost \$25,000; bids until Oct. 4; Jas. C. Rogers, Mayor. (See Machinery Wanted—Sewer Construction.)

Md., Baltimore.—City let contract Marino & Aiello, Knickerbocker Bldg., Baltimore, at \$2850.70 to construct sanitary and storm-water sewers in Clifton Park. (Lately noted inviting bids.)

Miss., Marks.—City voted on \$25,000 bonds to improve sewer and water systems. Address The Mayor.

Okla., Davis.—City defeated bonds for sewer construction. (Lately noted.)

S. C., Columbia.—City let contract Dysard Construction Co. of Atlanta, Ga., at \$33,165.15 to extend sewer system; distance, 23 mi.; purchased \$23,000 worth of piping; T. Keith Legare, City Engr. (Lately noted inviting bids.)

S. C., Columbia.—City let contract to Dysard Construction Co., Atlanta, Ga., to construct 22 mi. sewer mains; cost of laying pipe, \$33,165.15; T. Keith Legare, City Engr. (Bids lately noted.)

Tex., Cisco.—City will vote on \$20,000 bonds to construct sewer system. Address The Mayor.

Tex., Houston.—City let contracts aggregating \$8200 to construct sewers; C. H. Lawson, 2 contracts at \$1700 and \$1900, respectively; Hunter & Hunter at \$1600, and Freund & Quay at \$3000; in addition let contract Layne & Bowler Co. at \$1450 to drill well at south-side sewage-disposal plant.

Tex., Sweetwater.—City, W. H. Bartlett, Secy., will construct sewer outfall and disposal plant; 18-in. pipe; Imhoff tank, sprinkling filters, liquid chlorine treatment, etc., for disposal plant; bids until Oct. 4; cost about \$30,000; John A. Focht, City Engr. (See Machinery Wanted—Sewage Disposal Plant.)

W. Va., Huntington.—City has plans and will soon invite bids on construction of storm sewer system for South Side; main sewer to be 25-in. diam. and laterals 18 in.; drainage basin to comprise 100 acres; cost \$8000 to \$10,000; J. H. Sanborn, Asst. City Engr.; O. H. Wells, City Commr.

W. Va., Pennsboro.—City voted \$20,000 bonds for sewer construction and paving; John B. Yates, City Clerk. (See Road and Street Work.)

TELEPHONE SYSTEMS

Ky., Russellville.—Russellville Home Telephone & Telegraph Co., capital \$25,000, incorporated by Isaac E. Knisely, R. B. Crane, Edward H. Cady and others.

N. C., Salisbury.—Southern Bell Telephone & Telegraph Co. (main office, Atlanta, Ga.) plans erection of exchange and placing of wires underground; contemplates expenditure of \$125,000.

Tex., Waco.—Texas Toll Line Co., capital \$70,000, inceptd. by J. B. Earle, E. C. Bloomer, L. S. Gardner and others; operate independent long-distance telephone lines.

TEXTILE MILLS

Ala., Newton.—Cotton Yarn.—Killebrew Mfg. Co., capital \$30,000, inceptd. by T. J. Killebrew, R. D. Crawford and L. M. Killebrew.

Ga., Albany.—Cotton Products.—Flint River Cotton Mills let contract to V. C. Parker &

Son, Waycross, Ga., for building additional mill, 3 stories high, 235x80 ft.; brick construction; cost \$27,000. (Lately incompletely noted.)

Ga., Griffin.—Hosiery.—Griffin Hosiery Mills chartered with \$12,500 capital by Robert P. Shapard, R. O. Crouch, J. P. Mason and others; has rented building; will install machinery to knit women's hosiery; purchased equipment.

Ga., Lagrange.—Cotton Cloth.—Dixie Cotton Mills chartered with \$500,000 capitalization by Wm. H. Wellington, Boston, Mass.; George S. Sears, Weston, Mass.; Geo. H. Lanier, Lanett, Ala., and others.

Md., Elkton.—Cotton Products.—Southern Cotton Mills & Commission Co. chartered with \$75,000 capital by Clement M. Egner and others.

N. C. East Durham.—Hosiery.—J. H. Emory of Bowling-Emory Knitting Mill Co., Durham, will establish hosiery mill; install 30 knitting machines.

N. C., Fayetteville.—Hosiery.—A. McDowell, Scotland Neck, N. C., will establish hosiery mill; has building; install 60 knitting machines; electric power; equipment purchased. (Chamber of Commerce erroneously lately noted to have organized company.)

N. C., High Point.—Hosiery.—Crown Hosiery Mills will build 2-story addition costing \$1500.

S. C., Latta.—Cotton-yarn Mill.—John L. Dew plans organization of \$70,000 company to build sea-island cotton-yarn mill. (Lately noted to build yarn mill.)

Tenn., Memphis.—Cotton Linters.—Dixie Cotton Linter Co. chartered with \$10,000 capital by J. N. Talley, Geo. Day, A. E. Cummins and others.

Va., Norfolk.—Hosiery.—Ashley Hosiery Co. (lately noted under Berkeley) will establish mill at Walnut and Main Sts.; install 24 machines and operate by electric power; belt drive; daily capacity 60 doz. prs. hosiery. (See Machinery Wanted—Knitting Machinery.)

WATER-WORKS

Ark., Beebe.—City is not planning water-works. (Recent report incorrect.)

Ark., Benton.—City has completed construction of lately-noted water-works; J. B. McCrary Co., Engr., Atlanta, Ga.

Ark., Conway.—City, J. C. Dawson, Mayor, will construct steam pumping station in addition to electric station; cost of machinery to be installed within \$1000; date of opening bids not set. (Lately noted.)

Ark., Rector.—City is completing construction of water-works for which contract was noted let in May to Sullivan, Long & Hagerty, Bessemer, Ala. (Lately incorrectly noted as contemplating construction.)

Ark., Springdale.—City is not contemplating water-works construction. (Recent report incorrect.)

Ga., Damascus.—City, P. G. Webb, Clk., voted \$10,000 bonds for water and electric-light plant. (Lately noted.)

Ga., Manchester.—City voted \$45,000 bonds to construct water-works and sewer system. Address The Mayor.

Ky., Louisville.—Board of Water-works will receive bids at offices Louisville Water Co., 435 3d St. until Oct. 16 to erect pumping station on Ohio River and such other work as covered by plans and specifications; bids to be on forms furnished by company; lately noted as having plans and specifications for additional pump-house and another 30,000,000-gal. pump estimated to cost \$600,000.

Miss., Marks.—City voted \$25,000 bonds to improve water-works and sewer system. Address The Mayor.

Mo., St. Louis.—Board of Public Service approved bills appropriating \$455,000 for improvements to water system, including \$300,000 to construct reinforced concrete covers over storage basin in high-service station at Baden and 2 basins at Chain of Rocks; \$30,000 to build brick and concrete smokestack for Bissell's Point boiler-house, and \$75,000 for installation of 100,000,000 pump in Baden Station.

Mo., Trenton.—City asks bids for Oct. 11 to construct lately noted filter plant; present capacity 1,200,000 gals., 3 units; also on two 1000 G. P. M. centrifugal pumps, cast-iron pipe and 60 K. V. A. generator; E. E. Harper, Const. Engr., 2404 E. 30th St., Kansas City, Mo. (See Machinery Wanted—Water-works; Filter Plant, etc.)

N. C., Mocksville.—City will vote on bonds for water-works and electric lights. Address The Mayor.

Okla., Beggs.—City plans construction of water-works. Address The Mayor.

Okla., Enid.—City will vote on \$50,000 bonds for water-works improvements. Address The Mayor.

Okla., Nash.—City, C. E. Wilson, Mayor, will not issue lately noted bonds for water-works.

Okla., Okmulgee.—City voted \$25,000 bonds to improve water-works. Address The Mayor.

Okla., Tulsa.—City will construct low service pumping station at water-works pumping station; Frank Newkirk, City Auditor, receives bids until Sept. 28; specifications on file with Commr. of Water-works and Sewerage and with Stevens & Stiles, 222 Commerce Trust Bldg., Kansas City, Mo.

Okla., Vinita.—Missouri, Kansas & Texas Ry., L. F. Lonnbladh, Ch. Engr., Dallas, Tex., contemplates building storage reservoir to cost \$50,000.

Okla., Woodward.—City voted \$12,500 bonds to improve water-works; F. H. Kilburn, Supt.

S. C., Bamberg.—City is arranging for construction of water-works; Supt. Ryan is making surveys. (Noted in May to have voted \$10,000 bonds.)

S. C., Columbia.—City let contract Thornwell McMaster & Co. of Columbia at \$5147.50 to extend water system; distance, 5 mi.; purchased \$23,000 worth of mains, hydrants and valves; T. Keith Legare, City Engr. (Lately noted inviting bids.)

S. C., Columbia.—City let contract to Thornwell McMaster & Co., Columbia, to lay about 5 mi. water mains, amount \$5147.50; cost of water-works construction about \$28,000; T. Keith Legare, City Engr. (Bids lately noted.)

S. C., Kingstree.—Comms. Public Works, Le Roy Lee, Chrmn., let contract to drill well; J. Newton Johnston, Engr., Florence, S. C. (Bids lately noted.)

Tex., Beaumont.—South Park School Dist., J. E. Turner, Secy. (care of Prof. L. R. Pietzsch, Beaumont, Tex.), will construct 7050 ft. water mains; bids until Sept. 28; A. E. Freeland, Engr., Box 1075, Beaumont; lately noted to have voted \$25,000 bonds to provide water and sewer facilities for South Park school. (See Machinery Wanted—Water-works.)

Tex., Dallas.—Eagle Pass Water Co. increased capital from \$60,000 to \$80,000.

Tex., Fort Worth.—City Commission plans to extend water main 2000 ft. along Arlington Heights Blvd.

Tex., Hamlin.—City, L. Randals, City Secy., asks bids until Oct. 6 to construct reinforced concrete dam across California Creek for lately-noted water supply; H. C. Hord, Jr., City Engr. (See Machinery Wanted—Dam.)

Tex., Maypearl.—City voted \$7000 bonds for water system; will make surveys. Address The Mayor. (Noted in Aug.)

WOODWORKING PLANTS

Ala., Guin.—Cooperage.—Guin Cooperage Co., capital \$12,000, inceptd.; J. Miley Basket, Prest., Fayette, Ala.; J. J. Pope, V. P.; R. R. Wright, Secy.-Treas., both of Guin; will install cooperage plant.

Ala., Opelika.—Keg Headings and Boxes.—B. E. Brownfield, care of Brownfield Hardware Co., is interested in proposed installation of equipment to manufacture wood boxes and wooden heads for nail kegs. (See Machinery Wanted—Woodwork (Heading; Box) Machinery.)

Ark., Little Rock.—Flooring, etc.—E. L. Bruce Co., E. 17th St., will rebuild flooring plant destroyed by fire; is reported to erect \$100,000 plant with double capacity of burned mill; needs machinery and supplies. (See Machinery Wanted—Woodworking (Flooring, etc.) Machinery.)

Va., Boykins.—Furniture.—Boykins Furniture Co., capital \$2000, inceptd.; R. H. Powell, Prest.; J. J. Powell, Secy.-Treas.

Va., Stuart.—Staves and Heading, Barrels, Crates, etc.—J. D. Blackard Stave & Cooperage Co., W. G. Blackard, Gen. Mgr., will erect cooperage plant on 2-acre site; structures to include 50x60-ft. wood machine shop, 40x60-ft. cooper shop, 60x200-ft. storage-house and 30x100-ft. stave shed; erection by the company; will use machinery of present plant; manufactures staves and heading, fruit barrels, crates and insulator pins; capacity 50,000 fruit barrels per year.

Va., West Norfolk.—Barrels, Baskets, etc.—Planters' Mfg. Co. will rebuild plant reported burned at loss of \$15,000.

FIRE DAMAGE

Ala., Boaz.—Mann Hotel, owned by Emory Mann; loss \$10,000.

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Ala., Huntsville.—Dan Brandon's 3-story building; loss \$4000.
Ark., Benton.—Benton Steam Laundry; loss \$3000.
Ark., Hermitage.—Pinson & Wheeler's saw-mill; loss \$2000.
Ark., Lewisville.—Planters' Warehouse.
Ark., Little Rock.—E. L. Bruce Co.'s mill, kiln and lumber partially burned; loss \$60,000.
Ark., Little Rock.—A. M. West's residence; loss \$6500.
Ark., Wrightsville.—S. L. Kay's cotton gin and seedhouse.
Fla., De Land.—W. A. Steed's residence; loss \$5000.
Fla., Jacksonville.—Florida Cottonseed Oil Mills' building; loss \$140,000.
Ga., Ashburn.—Dakis Cotton Warehouse.
Ga., Macon.—C. A. Glawson's residence; loss \$7500.
Ga., Richland.—Richland Ice Co.'s plant; loss \$5000 to \$7500; Geo. P. Lunsford, owner.
Ky., Central City.—R. N. Mitchell's residence.
Ky., Clinton.—Home Telephone Co.'s exchange.
Ky., Drakesboro.—Graded school building. Address Dist. School Trustees.
Ky., Germantown.—W. N. Humlong's tobacco barn.
Ky., Louisville.—D. Weiss & Co.'s mattress factory at 365-369 Baxter Ave., owned by Dan Weiss, loss \$24,000; Leo Messmer's slaughter-house and shed in rear of residence at 1115 Hamilton Ave., loss \$1500.
Ky., Paducah.—Chero-Cola Bottling Co.'s plant at 5th and Norton Sts.; loss \$8000.
Md., Nottingham.—Mrs. Hannah Kimble's barn.
Md., Simpsonville.—Wm. F. Myerly's barn, barrack, cornhouse, stable; loss \$10,000.
Miss., Iuka.—Buildings owned by Mrs. J. M. Stone, Bostick & Moore, H. L. Hoser and others; loss \$10,000.
Miss., Lula.—Lula Gin Co.'s plant; loss \$15,000.
Mo., Kansas City.—L. Galler's mattress factory at 413 W. 5th St.; loss \$7500.
Mo., Rich Hill.—F. A. Strickland's store; loss \$5000.
N. C., Barnardsville.—Baptist Church. Address The Pastor.
N. C., Hiddenite.—J. C. Thomas Roller and Planing Mill, loss \$6000; Southern Ry.'s station, B. Herman, Ch. Engr., Washington, D. C.; W. C. Beckham's store, loss \$8000; T. D. Mayberry's store, loss \$1500; Hiddenite Hardware Co.'s store, loss \$4500.
N. C., Wilson.—Monk Hargrove's store and residence building.
Okla., Choctaw.—Dave Buchanan's gin; loss \$15,000.
S. C., Cope.—Mrs. J. B. Traywick's gin.
S. C., Greenwood.—Arrington Bros.' gin, corn and grist mills.
S. C., McCormick.—Price Livery Stable; J. M. Brown's store and other buildings.

Tenn., Chattanooga.—Sam Erwin's residence on Mission Ridge, near Ringgold Rd.; loss \$7000.
Tenn., Johnson City.—Bluff City Milling Co.'s warehouse; loss \$12,000.
Tex., Atlanta.—Atlanta Electric & Ice Co.'s plant; loss \$30,000.
Tex., Burlington.—Rosebud Oil & Cotton Co.'s gin; loss \$15,000.
Tex., Corpus Christi.—A. C. Blake's drug store; loss \$4000; D. J. Brack's rooming-house; loss \$3000.
Tex., Corsicana.—G. J. Heflin's residence; loss \$10,000.
Tex., Cumby.—Brack & Dry's gin; loss \$10,000.
Tex., Dallas.—Dairy cottage and barns of Buckner Orphans' Home; loss \$5000. Address Dr. R. C. Buckner.
Tex., Deport.—Busbert Gin Co.'s plant; loss \$8000.
Tex., Ennis.—Burr Lumber Co.'s plant; loss \$30,000.
Tex., Gainesville.—Mrs. S. L. Carter's residence; loss \$3500.
Tex., Industry.—Spreen-Lahmann Block.
Tex., McKinney.—R. C. Fisher's cotton gin; loss \$20,000.
Tex., Niles City, P. O. at Fort Worth.—Texas Lockjoint Cement & Silo Co.'s plant.
Tex., Orange.—Model Steam Laundry; H. C. Collmorgan, owner.
Tex., San Jose.—Hawkins Hotel, garage and servants' quarters, owned by Z. T. Nesbit; loss \$8000.
Tex., Seguin.—Roundbale Gin Co.'s plant, loss \$10,000; Seguin Milling & Power Co.'s corn mill, offices and warehouse, loss \$10,000.
Tex., Taylor.—A. J. Woodress' residence.
Tex., Tulla.—Tulla Drug Co.'s store; Olympia Theater; Tulla Opera-House; C. C. Haggood's dry goods store; Olympia Barber Shop; loss \$50,000.
Tex., Waco.—J. M. Swain's residence at Robinson; loss \$3000.
Va., Altavista.—Standard Red Cedar Chest Co. advises that small drykila only was burned in recently-reported fire and damage has been repaired.
Va., Colonial Beach.—Hotel Envyge, owned by D. J. Gatchell, 3614 Park Pl., Washington, D. C.; loss \$15,000.
Va., Lynchburg.—National Mattress Co.'s plant; loss \$14,000.
Va., Norfolk.—J. E. Etheridge Lumber Co.'s planing mill; loss \$25,000.
Va., Richmond.—Allen & Smith Co.'s candy factory; loss \$25,000.
Va., Richmond.—E. A. Saunders Sons Co.'s warehouse; loss several thousand dollars.
Va., Suffolk.—Nansemom Truck Package Co.'s warehouse; loss \$6000; A. B. Miner, Prest.
Va., West Norfolk.—Planters' Mfg. Co.'s plant; loss \$15,000.
W. Va., Waverly.—Dr. I. E. Allen's residence.

ASSOCIATION AND FRATERNAL

Ala., Montgomery.—Grand Secy. Masonic Home, receives bids until Oct. 2 to erect school; plans at office Ben M. Jacobs, Birmingham, Ala.; Albert D. Bloch, Mobile, and Frank Lockwood, Archt., Montgomery.
Ga., Moultrie.—Y. M. C. A. approved plans for \$30,000 building; construction begins by Nov. 1.
Mo., Carthage.—A. F. & A. M. plan to erect \$60,000 temple; stone construction.
N. C., Concord.—Y. M. C. A., J. W. Cannon, Prest., has plans by Shattuck & Hussey, 19 S. LaSalle St., Chicago, for building; about 100x100 ft.; swimming-pool, 18x15 ft.; 2 gymnasiums, 36x90 ft. each; 11 dormitories; social rooms, clubrooms, etc. (Previously noted.)
Tex., Austin.—I. O. O. F. will erect business and lodge building; 3 stories; brick; cost about \$20,000; third floor for lodge; R. P. Matthews, J. D. Copeland, J. O. Porter, Bldg. Com.
Tex., Uvalde.—Uvalde Lodge, A. F. & A. M., has plans by Ralph Cameron, San Antonio, for store and lodge building; 30x30 ft.; 2 stories and roof garden; reinforced concrete; steel frame; brick facing; concrete roof and floors; electric lights; cost \$10,000; stove heating; concrete sidewalks, \$200; construction begins in about 30 days. Address Geo. E. Brashier, Uvalde. (Lately noted.)
Va., Newport News.—Masonic Temple Corporation, W. B. Livezey, Prest., rejected all bids to erect Masonic temple and apartment building; will either have plans modified by Ferguson, Calrow & Wrenn, Archts., Virginia National Bank Bldg., Norfolk, or have new plans drawn. (Lately noted.)
W. Va., Lumberport.—I. O. O. F. will erect 2-story brick store and lodge building in spring.

BANK AND OFFICE

Ala., Tuscaloosa.—Merchants' Bank & Trust Co. of Tuscaloosa, C. B. Verin, Prest., has plans by W. W. Whildin, Birmingham, to remodel bank building; 28x30 ft.; will install vaults, tile floors, etc.; tin roof; steam heat; passenger elevators for 3 floors and cellar; cost \$10,000. Address owner. (Lately noted.)
Fla., New Smyrna.—State Bank of New Smyrna is receiving bids to erect press-brick bank building.
Ky., Whitesburg.—Dr. D. F. Smith will erect office and business building on Main St.
La., New Orleans.—Board of Port Commissioners will erect superintendent's office for Public Grain Elevator. (See City and County.)
Md., Baltimore.—Western Maryland Ry. is receiving bids to erect office building at Port Covington. (See Railway Stations, etc.)
N. C., Belmont.—Chronicle, Majestic, Climax, Imperial and National Yarn Mills will erect 2-story office building to cost several thousand dollars; completion probably in December.
Okla., Ardmore.—Jones, Green & Hinkle are reported to erect business and office building. (See Stores.)
Okla., Arapaho.—Dr. T. E. Evans plans to erect office building.
Va., Monterey.—Citizens' Bank will erect building in Highland; native stone; rough ashler type.
Va., Norfolk.—N. B. Joynes has plans by Jas. W. Lee, Sealboard National Bank Bldg., Norfolk, for 2-story brick office and store building at Church and Denby Sts.; 42½x77½ ft.; brick; wood joist construction; gravel roof; wood and cement floors; electric lights; cement sidewalks; bids opened Sept. 27.
Va., Richmond.—Virginia Railway & Power Co. will repair and erect 1-story brick and concrete addition to dispatchers' office; cost \$7500.

CHURCHES

Ala., Clanton.—Baptist Church (Revs. S. M. Adams and W. J. Armstrong interested) will erect building about 3 ml. from Clanton.
Ga., Locust Grove.—Baptist Church has plans by M. F. Morris, 525 Atlanta National Bank Bldg., Atlanta, for building; brick; limestone columns and trim; heating not decided; composition shingles; auditorium to seat 450; cost \$10,000.
Ga., Madison.—Madison Baptist Church receives bids through B. S. Thompson, Chrmn. Bldg. Com., until Sept. 28 to remodel and extend building; plans and specifications at office of Edwards & Sayward, Archts., 633 Candler Bldg., Atlanta; Mr. Thompson, Madison, and Builders' Exchange, Atlanta.
Ky., Louisville.—Clifton Evangelical Church will erect brick dwellings; cost \$3000. Address The Pastor.
Md., Baltimore.—Nazareth Lutheran Church is having plans prepared by Blanke & Zink, 648 Equitable Bldg., Baltimore, for parsonage at Canton; 3 stories; 22x30 ft.; cost \$4000.
Md., Baltimore.—Italian Methodist Episcopal Church, Rev. Joseph Passavalle, pastor, is having plans prepared by Haskell & Barnes, 301 N. Charles St., Baltimore, for parish-house; 3 stories; Gothic style; 18x109 ft.; brick and stone construction; basement for kindergarten; roof garden, etc.; following contractors estimating: R. F. Bennett Building Co., 123 S. Howard St.; Cowan Building Co., 106 W. Madison St.; John Waters Building Co., 23 E. Center St.; P. L. Cushman, 217-19 St. Paul St., and Thomas L. Jones & Sons, 410 W. Saratoga St., all of Baltimore.
Mo., California.—Christian Church, Rev. R. E. L. Prunty, pastor, will erect \$12,000 building.
N. C., Greenville.—Emanuel Baptist Church is having plans prepared by C. Gadsden Sayre, Anderson, S. C., for building; colonial style; brick and stone trimmings; slate or tile roof; fan-furnace heating and ventilating; art glass; indirect lighting; cost about \$20,000.
N. C., Lenoir.—Methodist Church, Rev. D. M. Litaker, pastor, will erect building; 90x116 ft.; slate roof; steam heat; other details not determined. (Lately noted.)
Okla., El Reno.—Christian Science Church is reported to erect building. Address The Reader.
Okla., Idabel.—Methodist Church is having plans prepared for \$15,000 building. Address The Pastor.
Okla., Oklahoma City.—United Presbyterian Church will erect \$10,000 building. Address The Pastor.
Okla., Okmulgee.—Christian Church will erect brick building. Address The Pastor.
Okla., Okmulgee.—Christian Science Church will erect building; 48x78 ft. Address The Reader.
Tenn., Clarksville.—First Baptist Church has plans by John Galsford, Goodwyn Institute, Memphis, for building; stone face; brick backing; gravel roof; direct steam heat; cost \$50,000; bids opened Oct. 16. Address Sterling Fort, Clarksville; plans and specifications at Northern Bank, Clarksville, and Builders' Exchange, Nashville, Memphis and Louisville; all work to one general contractor; no sub-bids. (Previously noted.)
Tenn., Knoxville.—Epworth M. E. Church South, Rev. Keener Cox, pastor, will erect \$20,000 structure.
Tex., Beaumont.—Congregation Kol Israel has plans by C. A. Logan, Beaumont, for office; 40x75 ft.; stucco; cost \$5000; G. P. Vauchet, Contr.
Tex., Beeville.—St. Joseph's Catholic Church will probably erect brick building to replace structure damaged by storm. Address The Pastor.
Tex., Dallas.—Vestry Christ Church Parish, Oak Cliff, Sta. A. Dallas, will erect building; brick; English perpendicular type; tile roof; wood floors; steam or hot-water heat; indirect lighting; cost about \$15,000; architect not selected; sketches being received. Address The Rector, 124 N. Marshalls Ave.

CITY AND COUNTY

Ala., Montgomery.—City Hall.—City, W. T. Robertson, Mayor, rescinded call for election on \$250,000 bonds to erect city hall. (Lately noted.)
Fla., Miami.—Comfort Station.—City has plans by August Geiger, Miami, for comfort station in Courthouse Square; 16x30 ft.; 2 stories; Johns-Manville built-up roof; concrete walls; first-story floors concrete; second, wood; cost \$3000; bids opened. (Lately noted.)
Ga., Macon.—Auditorium.—City commissioned Alexander Blair, Macon, to prepare plans for auditorium; fireproof; capacity 3500. (Noted in July to have voted \$100,000 bonds to erect building.)
La., New Orleans.—Office.—Board of Port Commrs., B. B. Hans, Prest., 200 New Orleans Court Bldg., receives bids until Oct. 4 to erect superintendent's office for Public Grain Elevator; plans and specifications at office Ford, Bacon & Davis, Archts. and Engrs., 921 Canal St., New Orleans.
Miss., Macon.—Municipal.—Mayor Jas. G. Horton ordered vote Oct. 2 on \$5000 bonds to remodel municipal building; work done by local contractors.

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

Ga., Atlanta.—C. W. McClure has plans by Lella Ross Wilburn, 305 Peters Bldg., Atlanta, for apartment-house; 4 suites; 2 stories; brick veneer; press brick; steam heat; hardwood floors; cement veranda floors; tiled bathrooms; electric lights; metal tile roof; cost \$5250.
Ga., Savannah.—Col. Jacob Gazan has plans by Levy & Clarke, Savannah, for 6-story apartment-house; investment about \$100,000.
Md., Baltimore.—Tire Co. of America is having plans prepared for store and apartment-house. (See Stores.)
Md., Baltimore.—J. L. Robinson of J. L. Robinson Construction Co., 66 Knickerbocker Bldg., purchased 3-story dwelling at 1130 W. Lafayette Ave., and will convert into apartment-house; 3 suites; cost \$3000; construction by owner.
Mo., Kansas City.—J. B. Boutross will erect 2-story brick flat; 4 suites; cost \$3000.
Mo., Kansas City.—E. L. Ruble will erect apartment-house; 2 stories; 14 suites; cost \$5000.
Mo., St. Louis.—A. A. Scharff will erect 3-story tenement; also 1-story garage; cost \$925; construction by owner.

Mo., St. Louis.—South Side Building Co. will erect apartment-house; brick; 4 suites.
Mo., St. Louis.—Thomas Ellwanger will convert residence at 2023 S. Jefferson Ave. into apartment-house; cost \$5500.
Mo., St. Louis.—W. M. Sturges will erect apartment-house on Maffitt Ave.
Okla., Durant.—Geo. Meyers will erect 18-room apartment building.
S. C., Greenville.—R. I. McDavid will erect apartment-house at Spring and North Sts.; four 5-room-and-bath apartments; 50x78 ft.; brick veneer; gravel Barrett specification roof; rift sawed pine floors; down-draft one-way steam heat; cost \$12,500; contract let to local contractor about Oct. 12; Martin & Ward, Archts., Greenville.
Tex., Ennis.—Charles Goble will erect business and apartment building.
Tex., Waco.—Milton W. Scott will erect Scott Apartments to include 8 cottages; conduit system lighting and wiring; cost about \$50,000; plans by owner.
Va., Newport News.—Masonic Temple Corporation rejected all bids to erect Masonic temple and apartment building. (See Association and Fraternal.)
Va., Richmond.—Virginia Realty & Construction Co. will erect building to contain 4 apartments; cost \$6500.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Mo., Kansas City.—Shelter.—City will erect music and shelter building in Swope Park; 60x125 ft.; stone, concrete and tile; tile roof; concrete floors; electric lights; architect not selected; date opening bids not set. Address Board of Park Commrs. (Lately noted.)

Okla., Durant.—Jail.—Bryan County Commissioners ordered vote to erect courthouse and jail. (See Courthouses.)

Okla., Okmulgee.—Jail.—Okmulgee County opens bids Sept. 28 to erect courthouse and jail. (See Courthouses.)

Tex., Dallas.—Home.—County Commrs. open bids Oct. 2 for proposed Dallas County Detention Home for Children; 2 stories; reinforced concrete; cost \$15,000 to \$16,000; Brickley & Brickley, Architects, Bush Bldg., Dallas.

Tex., Dallas.—Farm.—Dallas County is having plans prepared by Lang & Wittich, Dallas, for woman's building at county farm; reinforced concrete, brick and tile; tar and gravel Barrett specification roof; concrete floors; bids opened Sept. 28; cost \$25,000. (Lately noted.)

Tex., Paris.—Jail.—Lamar County Commrs. let contract Oct. 7 to erect jail; structural steel, brick and marble; high-pressure heating system; electric fixtures and elevators; Sanguinet & Staats, Fort Worth, and Barry, Smith & Withers, Paris, Architects.

Tex., West.—City Hall.—City opens bids Oct. 4 to erect city hall; 52x70 ft.; brick; metal roof; tile floors; electric lights; cement sidewalks; cost \$11,000; plans and specifications at office Birch D. Easterwood, Architect, 412 Praterian Bldg., Waco, Tex. (Lately noted.)

COURTHOUSES

Ala., Mobile.—County Commrs. opened bids to construct stucco and cast-cement tower on courthouse, 50 ft. above roof; also remodel front, providing parapet walls of cement; re-roof courthouse and jail with tin and slate; replace present parapets on jail with brick and cement, etc.; John J. Monahan, Mobile, lowest bidder at \$268 for stucco work on courthouse; R. McLeod, at \$761 for stucco work on jail; Alabama Sheet Iron & Metal Works, Mobile, at \$238.65 and \$269.87, for repairing roofs of jail and courthouse, respectively; John P. Emrich, at \$248 for tower and removal of present one; Jett-Muth Construction Co., Mobile, at \$2110 for brick-work and other alterations to jail; A. H. Downey, Architect, Van Antwerp Bldg., Mobile. (Lately noted.)

Ga., Decatur.—De Kalb County Commrs. are having plans prepared by Walker & Chase, Candler Bldg., Atlanta, for courthouse to replace structure lately noted damaged by fire at loss of \$80,000.

Okla., Durant.—Bryan County Commissioners ordered vote Nov. 7 on \$109,000 bonds to erect courthouse and jail.

Okla., Okmulgee.—Okmulgee County has plans by Hair & Tonini, 417 Terminal Bldg., Oklahoma City, for courthouse and jail; 100x104 ft.; fireproof; marble, tile and concrete floors; steam heat; cost \$135,000; bids opened Sept. 28. (Lately noted.)

DWELLINGS

Ala., Guntersville.—G. B. Zetter has plans by Lelia Ross Wilburn, 305 Peters Bldg., Atlanta, for frame bungalow; 1½ stories; brick foundation; shingle roof; electric lights; hardwood floors; cost \$3500.

Ark., Little Rock.—W. T. Mosley will erect 2-story frame residence; cost \$5100.

D. C., Washington.—Chas. E. Wire, 1413 H. St. N. W., will erect ten 2-story brick dwellings at 1412-30 Decatur St.; cost \$40,000.

D. C., Washington.—H. R. Howenstein, 1314 F St. N. W., will erect three 2-story brick dwellings at 726-30 15th St. S. E.; cost \$7500.

D. C., Washington.—Henry L. Breuninger, 5700 16th St. N. W., will erect six 2-story brick dwellings; cost \$19,000.

D. C., Washington.—Harry A. Kite has plans by Geo. T. Santmyers, 921½ New York Ave., for twelve 2-story brick dwellings at 22-24 Warren St. N. E.; cost \$15,000; construction by owner.

D. C., Washington.—J. A. Connor, Hendrick Bldg., will erect three 2-story tile dwellings; cost \$11,000.

D. C., Washington.—Wm. S. Phillips, 1409 New York Ave., will erect two 2-story brick dwellings; cost \$5000.

D. C., Washington.—Malcolm Kerlin, 1421 Harvard St. N. W., will erect dwelling; cost \$5000.

D. C., Washington.—W. C. and A. N. Miller have plans by B. F. Meyers, Bond Bldg., Washington, to erect 2-story brick dwelling; cost \$8000.

Fla., Anastasia.—E. J. Masters will erect cottage at Anastasia Island.

Fla., Clearwater.—Haven Beach Co. is having plans prepared by Lester Avery, Clearwater, for 35 cottages at Haven Beach; 4 under construction; completion by December; construction under supervision of Architect; Leroy Cotter of Tampa is interested.

Fla., Clearwater.—W. G. Allen of Tampa will erect bungalow at Haven Beach.

Fla., Clearwater.—Spencer Hall of Tampa will erect residence at Haven Beach; bungalow style.

Fla., Clearwater.—S. D. Thompson, Tampa, will erect bungalow at Haven Beach.

Fla., Clearwater.—M. G. Givens, Tampa, will erect bungalow at Haven Beach.

Fla., Fort Myers.—S. P. Bruton will soon let contract to erect 2-story, 9-room residence; Swiss style.

Fla., Jacksonville.—V. Roy Kooker will erect 2-story frame residence; cost \$5200.

Fla., Miami.—Carl Fischer has plans by August Gelger, Miami, for 4 residences at Miami Beach; wood; shingle and composition roof; wood floors; bids opened Sept. 22; cost \$3000.

Fla., Miami.—Talbot C. Dexter, Pearl River, N. Y., has plans by August Gelger, Miami, for residence at Point View; 43x32 ft.; 2 stories; screened porches; hollow-tile walls; wood partitions stuccoed; tile roof; wood floors; cost \$8000.

Fla., Point Pleasant.—W. D. Curry will erect residence; pressed brick; colonial style.

Fla., St. Augustine.—S. L. Friday, Reddick, Fla., will erect bungalow at Assembly Beach.

Fla., Vero.—Henry Walker, St. Louis, is reported to erect 2 dwellings on Cherokee Ave.

Fla., Vero.—Iowa Securities Co., Davenport, Ia., will erect number residences on Osceola Blvd.

Ga., Atlanta.—W. S. Duncan will remodel residence at 18-24 Butler St.; 6 rooms; cost about \$4000; day labor; Hentz, Reid & Adler, Architects, Atlanta; C. E. Bowen, Engr., Atlanta. (Lately noted.)

Ga., Atlanta.—W. E. Dendy will erect residence on Oglethorpe University campus; 2 stories; 8 rooms; brick veneer; rough-texture brick; composition shingles; steam heat; rift pine floors; tiled bathrooms; terrazzo porches and terraces; day labor; W. F. Morris, Architect, 525 Atlanta Natl. Bank Bldg., Atlanta.

Ga., Homeland.—Dr. J. W. Buchanan, 904 Beall Ave., Wooster, O., is erecting two 7-room bungalows near Homeland; purchased nearly 1000 acres of land and is establishing pecan groves, stock farm, etc. (Lately noted to erect bungalow near Folkston, Ga.)

Ga., Lagrange.—Dr. W. E. Morgau will erect 4 residences.

Ga., Macon.—C. O. Glawson will probably rebuild residence lately noted damaged by fire at loss of \$5000.

Ky., Louisville.—Mabel Allen will erect brick-veneer dwelling; cost \$3500.

Ky., Louisville.—Cora Benninger will erect brick-veneer dwelling; cost \$3200.

Ky., Louisville.—L. P. Kleiderer will erect brick-veneer dwelling; cost \$3500.

Ky., Louisville.—L. P. Kleiderer will erect brick-veneer dwelling; cost \$3500.

Ky., Whitesburg.—Southeast Coal Co. will erect 100 miners' dwellings near Laviers between Castlesville and Sergeant.

La., New Orleans.—New Orleans Homesite Co. will erect several dwellings.

Md., Baltimore.—J. J. Carlin, 215 St. Paul St., is having plans prepared by Stanislaus Russell, 2900 Clifton Ave., Baltimore, for eight 2½-story dwellings on Ulman Ave. near Reisterstown Rd.; 21x37 ft.; cost \$25,000.

Md., Baltimore.—Henry N. Tribbe, 3779 Kossuth St., will erect 2-story brick building on Kossuth St. near Old Frederick Rd.; 18x60.6 ft.; cost \$3000.

Mo., Kansas City.—Frank D. Harrison will erect residence in Sunset Hill; brick; colonial type.

Mo., Kansas City.—C. O. Jones will erect \$3000 residence; 1½ stories; stucco.

Mo., Kansas City.—F. A. Wormald will erect 1½-story stucco dwelling; cost \$4500.

Mo., Kansas City.—Harry A. Adams will erect residence; 2 stories; stone and stucco; cost \$5000.

Mo., Kansas City.—Olaf Johnson, 4124 Wyoming St., has plans by E. O. Brostrom, Kansas City, for residence; 32x30 ft.; stone and frame; shingle roof; wood floors; cost \$4000; hot-water heat, \$500. (Lately noted.)

Mo., Kansas City.—Sterling Morton will erect 2-story frame dwelling; cost \$16,000.

Mo., Kansas City.—S. R. Graham will erect residence; 2 stories; stucco veneer; cost \$12,000.

Mo., Kansas City.—Paul J. Mason will erect 2-story frame dwelling; cost \$4000.

Mo., St. Charles.—Charles Borgfeld will erect residence on 5th St.

Mo., St. Louis.—Charles Schilli will erect store and dwelling.

Mo., St. Louis.—B. I. Graham will erect 2-story brick residence; construction under supervision of John S. Blake & Bro. Realty Co.

Mo., St. Louis.—Arthur H. Genther will erect brick bungalow; cost \$4000.

Mo., St. Louis.—James Laussman will erect residence; 5 rooms; brick; bungalow style; cost \$3250.

Mo., St. Louis.—Jas. H. Goodman will erect 5-room brick bungalow; cost \$3000.

Mo., St. Louis.—Mrs. Bertha N. Fields will erect residence

Mo., St. Louis.—Mrs. Mollie Kennedy will erect bungalow.

Mo., St. Louis.—M. T. Durnin will erect 6-room brick bungalow; cost \$6500.

N. C., Asheville.—Carolina Wood Products Co. will erect 6 dwellings in Kenilworth Park.

N. C., Asheville.—D. C. McVey will erect residence in Kenilworth Park; Swiss chalet type.

N. C., Asheville.—E. G. Hester and others will erect 18 dwellings in Kenilworth Park.

N. C., Winston-Salem.—H. K. Scarborough has plans by C. Gilbert Humphreys, Winston-Salem, for dwelling; 7 rooms; frame; shingle roof; wood floors; cost \$3250; hot-air heat, \$200 to \$300. (Lately noted.)

Okla., Clinton.—Clint R. Strong will erect \$10,000 residence.

S. C., Anderson.—W. D. McLean of Realty Trust Co. is having plans prepared by Casey & Fant, Anderson, for 7-room residence on Webb St.

S. C., Charleston.—Carrie Baylest will erect dwelling; cost \$3000.

S. C., Chester.—John L. Williams will erect residence on York St.

S. C., Greenville.—O. G. Hicks will erect \$8000 residence.

S. C., Paelet.—School Trustees will erect residence. (See Schools.)

S. C., Spartanburg.—Carolina Realty Co. will erect 2 bungalows on Colder St.

Tenn., Nashville.—W. R. Murry will erect brick-veneer bungalow; cost \$3200.

Tex., Beaumont.—Interstate Realty Co. has plans by C. A. Logan, Beaumont, for five 1-story frame bungalows; cost \$1500 to \$1800 each; construction by owner.

Tex., Beaumont.—D. H. Steinhagen has plans by C. A. Logan, Beaumont, for residence; stucco; cost \$3500.

Tex., Brenham.—H. F. Wehmeyer will erect 2-story brick-veneer residence; cost about \$12,000.

Tex., El Paso.—Macon Realty Co. will erect 4 bungalows; cost \$11,400.

Tex., El Paso.—Phoenix-El Paso Co. will erect bungalow at Hueco and Estrella Sts.; cost \$4000.

Tex., Houston.—L. L. Limbaugh has plans by A. De Lisle, Houston, for residence; 2 stories; 6 rooms; frame; hardwood floors; electric fixtures; cost \$3500; construction by owner, who will purchase materials.

Tex., Paris.—Walter Nix will erect 2-story residence.

Tex., Paris.—J. F. Keel will erect 2-story frame dwelling; cost \$4600.

Tex., Paris.—W. B. Duncan will erect residence; 2 stories; frame; cost \$4500.

Tex., San Antonio.—Julian H. Riegler will erect 5-room residence; cost \$5500.

Va., Harrisonburg.—Carl Ney opens bids Oct. 6 to erect 8 dwellings; seven, 19x35 ft.; other, 38x35 ft.; veneered brick walls; slag roof; wood floors; hot-air heat; electric lighting; cost \$16,000; Blanke & Zinc, Architects, 648 Equitable Bldg., Baltimore, Md.; contractors estimating are Wm. Bucher & Son, Bassford Bros., J. S. Doval, Gordon Bros. and J. Holmes Moore, all of Harrisonburg; Jack Thuma & Son, Bridgewater, Va. (Lately noted.)

Va., Richmond.—M. J. Johnson will erect 2-story frame residence; cost \$3000.

Va., Richmond.—P. J. Beattie will erect 2 dwellings; brick; cost \$8000.

Va., Richmond.—A. C. Nelson will erect 1½-story frame dwelling; cost \$4500.

Va., Richmond.—J. K. Branch has plans by John Russell Pope, 527 Fifth Ave., New York, for residence; stone and brick; about 100x120 ft.; 3 stories.

Va., Richmond.—Virginia Realty & Construction Co. will erect two 2-story brick dwellings; cost \$6500.

Va., Richmond.—W. J. Johnson will erect two 2-story frame dwellings; cost \$3000.

Va., Richmond.—Virginia Realty Corp. will erect residence; 3 stories; brick; cost \$8500.

Va., Richmond.—S. S. Evans will erect 2-story brick and stucco residence; cost \$14,000.

W. Va., Huntington.—Jas. A. Hughes will erect residence.

W. Va., Moundsville.—Grover Campbell will erect residence on Virginia St.

HOSPITALS, SANITARIUMS, ETC.

Ark., Conway.—Faulkner Medical Society, J. M. Muse, Pres., is considering erecting county hospital.

Mo., Kansas City.—Dr. Hugh M. McConnell will erect cat and dog hospital

Mo., St. Louis.—Dr. Cleveland H. Shutt, Hospital Commr., is promoting erection of psychopathic clinic on City Hospital grounds; plans include renovating plant for fumigating and pressing patients' clothes; social service department, etc.; 4 stories; 54x112 ft.; buildings for garage for 10 ambulances and fumigation building for sterilizing ambulances.

N. C., Gastonia.—City Hospital Co. leased front half of fifth floor of building they now occupy and will convert into home for nurses; also remodel fourth floor for ward, private rooms and operating-room.

N. C., Greenville.—Pitt County votes Dec. 5 on \$50,000 hospital bonds.

Okla., Fairfax.—Drs. D. A. and J. G. Shoun are organizing company and will soon let contract to erect hospital.

Tex., Abilene.—R. S. Glenn, Campbell Bldg., Abilene, is preparing plans for hospital; 60 beds; fireproof construction.

Tex., Waxahachie.—Waxahachie Sanitarium will erect building; fireproof; brick; cost about \$50,000.

HOTELS

Fla., Seabreeze.—Clarendon Hotel Co. is reported not to erect 150-room annex to hotel until next summer. (Noted July 29.)

Okla., Idabel.—J. W. Johnson is reported to occupy brick hotel to be erected.

Okla., Idabel.—Mrs. J. R. White plans to erect hotel.

S. C., Gaffney.—R. E. Grabel, Secy. Chamber of Commerce, is promoting organization of company to erect hotel at Granard and Robertson Sts.; fireproof, steel reinforced construction; roofing not decided; tile and hardwood floors; steam heat; electric lights; electric white-way style sidewalk lights; cost \$50,000; bids opened in about 30 days; construction begins in spring.

MISCELLANEOUS

Ark., Little Rock.—Clubhouse.—F. T. Holenberg will erect clubhouse for Pulaski County Boys' Club; Mann & Stern, Architects, Little Rock. (Lately noted.)

Fla., Enterprise.—Orphanage.—Methodist Orphanage will erect building; accommodate 60 children.

Fla., Miami.—Amusement Pier.—Matthew F. Elser has plans by August Gelger, Miami, for amusement pier at 12th St. and Biscayne Bay; main auditorium 63x40 ft.; reinforced concrete; Johns-Manville built-up roof on concrete slab; reinforced concrete floor; cost \$30,000; construction, by owner, will begin in about 30 days.

Md., Baltimore.—Museum.—Baltimore Museum of Art, Incptd., approved plans by Parker, Thomas & Rice, Union Trust Bldg., Baltimore, for temporary municipal museum at Charles and Biddle Sts. for industrial and fine arts exhibitions; 2 stories; cost \$40,000; plans to erect \$1,000,000 building later; Blanchard Randall, 200 Chamber of Commerce Bldg.; Henry H. Wiegand, 222 Roland Ave.; Dr. A. R. L. Dohme, Pratt and Howard Sts., Building Co. (Noted in June.)

Okla., Vinita.—Gymnasium.—W. A. Armstrong will erect \$3810 gymnasium.

Tex., Paris.—Barn.—Paris Livery & Transfer Co. will erect barn; 1 story; brick; 30x108 ft.

Tex., San Angelo.—Fair.—San Angelo Fair will erect educational exhibit building; 50x50 ft.; also plans other buildings.

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Va., Richmond.—Undertaking Establish-
ment.—A. W. Bennett will expend \$6000 to
repair brick building at 601 W. Broad St.
Va., Richmond.—Stable.—John A. Hutches-
on plans to convert building at 10th and
Byrd Sts. into stable to contain 100 stalls.

RAILWAY STATIONS, SHEDS, ETC.

Ga., Oglethorpe.—Southern Ry. Co., B.
Herman, Ch. Engr., M. W. & S., Washington,
D. C., will erect depot at Oglethorpe Uni-
versity.

Md., Baltimore.—Western Maryland Ry.,
H. R. Pratt, Ch. Engr., Baltimore, is re-
ceiving bids to erect 1-story office building
at Port Covington; brick; cost \$25,000; fol-
lowing contractors estimating: C. E. Stubbs,
548 Equitable Bldg.; Price Concrete Con-
struction Co., 219 Maryland Trust Bldg.;
Cowan Building Co., 106 W. Madison St.,
and C. L. Stockhausen Co., Marine Bank
Bldg.; all of Baltimore.

Mo., Avondale.—Kansas City, Clay County
& St. Joseph Ry. Co., J. R. Harrigan, Gen.
Mgr., Kansas City, will not erect joint sta-
tion lately noted.

N. C., Asheville.—Norfolk Southern R. R.,
F. L. Nicholson, Ch. Engr., Norfolk, Va.,
will erect passenger and freight station; 2
stories.

Tex., Kingsville.—St. Louis, Brownsville
& Mexico Ry., R. J. Kirkpatrick, Div. Engr.,
Kingsville, will erect sheds to replace struc-
ture damaged by storm.

Va., Bon Air.—Southern Ry., B. Herman,
Ch. Engr., M. W. and S., Washington, D. C.,
will erect passenger station; frame; 26x70
ft.; platform with concrete curb; concrete
wall supporting driveway, steps and railing.

Va., Richmond.—Virginia Railway & Power
Co. will repair and erect addition to dis-
patchers' office. (See Bank and Office.)

Va., Staunton.—Blue Ridge Light & Power
Co. will extend car barn facilities; W. E.
Moore & Co., Engrs., Pittsburgh, Pa., will
superintend construction. Completion in spring.

SCHOOLS

Ala., Eufaula.—City voted \$15,000 school
bonds; Frank Lockwood, Archt., Montgom-
ery, Ala. (Lately noted.)

Ala., Fayette.—City, W. B. Atkins, Mayor,
votes Oct. 23 on \$2500 bonds for high school
purposes; also on \$10,000 bonds to erect pub-
lic school.

Ala., Montgomery.—City, W. T. Robertson,
Mayor, rescinded call for election on \$25,000
bonds for school purposes. (Lately noted.)

Ark., Center Point.—School Board, W. D.
Lee, Pres., will not erect school building.
(Recent report erroneous.)

Ark., Siloam Springs.—School Board will
erect school on Buffalo Prairie; Geo. Gleas-
on, Chrmn. Com.

Ark., Winslow.—School Board will erect
school building.

Fla., Jacksonville.—Board of Public In-
struction, F. A. Hathaway, Supt., receives
separate bids until Oct. 14 for plumbing and
heating school building at Grape and Acosta
Sts., noted in July, for which W. P. Rich-
ardson & Co., Jacksonville, have general con-
tract; Mellen C. Greeley, Archt., Jackson-
ville. (See Machinery Wanted—Heating;
Plumbing.)

Fla., Tavares.—Howe Dist. will vote on
\$10,000 school bonds. Address County Supt.
of Education.

Fla., Thibby.—Pasco County Board of Pub-
lic Instruction, Dade City, Fla., opens bids
Oct. 24 to erect school building; 6 rooms
and auditorium; clay brick; cost about \$10,-
000; C. H. Glass, Archt., Roberts' Bldg.,
Tampa. (Mr. Glass lately incorrectly noted
having contract.)

Ga., Augusta.—Board of Education receives
plans until Nov. 15 for Tubman High School
for Girls; accommodations for about 600
students; site 300x1100 ft.; fireproof; fire
escapes; heating plant; electric lights; com-
municating telephone system; program sig-
nal clock, with program signal bell in each
room; 20 classrooms, science laboratories, 2
study halls, assembly hall to seat 900; li-
brary 22x32 ft., locker rooms, etc.; labora-
tories supplied with gas, water and electric
current; 2 sanitary drinking fountains on
each floor; cost not to exceed \$100,000.

Ga., Carrollton.—School Trustees will erect
girls' dormitory for Fourth Dist. Industria
and Agricultural School; cost \$15,000; Haral-
son Bickley, Archt., Third National Bank
Bldg., Atlanta.

Ga., Griffin.—City voted \$65,000 bonds to
erect school and remodel other buildings.
J. H. Smith, Mayor. (Lately noted.)

Ga., Reynolds.—City is having plans re-
vised for school and auditorium; Brown &
Dunwoody, Archts., Macon, Ga. (Lately
noted.)

Ky., Newport.—City votes Nov. 7 on \$150,-
000 bonds to erect high school. Address
Board of Education.

Md., Baltimore.—City votes Nov. 7 on \$5,-
000,000 loan, including \$1,000,000 for schools.
James H. Preston, Mayor.

Md., Frostburg.—Frostburg Normal School
plans to erect 3-story dormitory addition; C.
M. Anderson, Archt., 324 N. Charles St., Bal-
timore.

Miss., Corinth.—School Board will expend
several thousand dollars for improvements
to schools, to include 2 fire escapes in pri-
mary building, heating plant, erecting wing,
etc.

Miss., Ellisville.—Jones County Commrs.
ordered vote Sept. 28 on \$3000 and \$4000 bonds
to erect, equip and repair schools in Glade
Consolidated School Dist. and Fairview Pub-
lic School Dist.

Miss., Gulfport.—Harrison County plans to
expend about \$100,000 for 6 schools. Address
County Clerk, Gulfport.

N. C., Asheville.—Buncombe County School
Board lets contract Sept. 25 to erect Wood-
fin School; 8 to 9 rooms; auditorium; cost
\$17,000.

N. C., Clinton.—School Dist. No. 5, Hunter
Township, voted \$27,500 bonds to purchase
site and erect school. Address Dist. School
Trustees.

N. C., Davidson.—Davidson College is hav-
ing plans prepared by Robt. F. Smallwood,
569 5th Ave., New York, for \$25,000 gymna-
sium.

N. C., Draco.—Draco School Dist. will erect
school. Address Dist. School Trustees.

N. C., Roxboro.—Building Com., Allensville
Graded School, receives bids through T. B.
Davis at Pioneer Warehouse until Sept. 30 to
erect school; plans and specifications at
office J. E. Montague, Supt., and Mr. Davis
as above.

N. C., Winterville.—School Board is having
plans prepared by C. Gadsden Sayre, Ander-
son, S. C., for administration building; 8
recitation-rooms; first floor, auditorium with
balcony; complete basement for manual
training, domestic science, laboratories, etc.;
colonial style; metal roof; slate blackboards;
fan-furnace heat and ventilation; ventilated
plumbing; electric lighting; C. W. Blanch-
ard, Chrmn., Newbern, N. C. (Lately noted.)

Okla., Ada.—City plans to issue \$20,000
school bonds. Address The Mayor.

Okla., Bristow.—School Dist. voted \$12,000
bonds to erect school building; F. H. Groom,
Secy., Board of Education. (Lately noted.)

S. C., Pacolet.—School Trustees will erect
residence for J. E. Reeder, Principal of
North Pacolet School.

S. C., Spartanburg.—Walnut Hill School
Dist. is considering vote on \$3000 bonds for
school; total cost \$4000. Address District
School Trustees.

Tenn., Nashville.—Board of Education, Wil-
liam Nelson, Chrmn. Com., receives bids un-
til Oct. 4 (extended date) to erect Warner
School; 80x235 ft.; brick; wood joists; stone
trimmings; Barrett specification roof; double
floors; wired for outside current; cost about
\$80,000; steam heat, \$8000; plans and spec-
ifications at office Asmus & Norton, Archts.,
634 Stahlman Bldg., Nashville. (Lately
noted.)

Tenn., Ooltewah.—Southern Training
School Trustees, Graysville, Tenn., acquired
farm near Ooltewah, and plan to erect
Southern Training College; cost about
\$125,000.

Tex., Austin.—Managers of State Institute
for the Deaf have plans by Kuchne, Chasey
& Giesecke, Austin, and open bids Oct. 4 to
erect oral school for deaf; 3 stories and
basement; fireproof concrete frame; gravel
roof; tile and concrete joist floor construction;
vacuum (Webster or Dunham) heat;
cost \$60,000. Address Joe Koen, Pres., Board
of Managers. (Lately noted.)

Tex., Beaumont.—City Secy. receives bids
until Oct. 9 to erect school to replace Pol-
lard School; 2 stories and basement; semi-
fireproof; 20 classrooms and auditorium;
Barrett specification roof; wood joist floors;
low-pressure gravity heat; cost \$40,000; sepa-
rate bids for plumbing, heating and wiring;
plans and specifications at office City Secy.
and Sanguinet, Staats & Gottlieb, Archts.,
Fort Worth and Houston, Tex.; Emmett A.
Fletcher, Mayor. (Lately noted.)

Tex., Dallas.—School Board has plans by
C. H. Leinbach, Dallas, for addition to West
Dallas High School; cost \$10,000.

Tex., Eagle Ford.—School Board will erect
concrete school; cost about \$10,000; bids
opened about Sept. 30; C. H. Leinbach,
Archt., Dallas. (Previously noted.)

Tex., Fairlie.—School Board has plans by
C. H. Leinbach, Dallas, for 2-story brick
school; cost \$6500.

Tex., Fort Worth.—School Board has plans
by Muller, Van Slyke & Woodruff, 607 Burk
Burnett Bldg., Fort Worth, to remodel and
repair schools as follows: Marine School,
Fourth, Fifth, Seventh and Ninth Ward
schools.

Tex., Grapevine.—School Board has plans
by Muller, Van Slyke & Woodruff, 607 Burk
Burnett Bldg., Fort Worth, for 2-story brick
addition to high school to cost about \$10,000.

Tex., Magdalena.—Trustees have plans by
Trost & Trost, El Paso, for high school;
3 stories; mission style; red pressed brick;
gymnasium and stage in basement; manual
training and domestic science departments;
cost \$22,000; completion about Feb. 1.

Tex., Marlin.—School Board is having plans
prepared by Fozzie E. Robertson and C. D.
Hill & Co., Dallas, for 3-story school; cost
\$30,000. Address City School Supt. (Lately
noted.)

Tex., Mexia.—City ordered vote Oct. 24 on
\$9000 bonds to erect brick school for negroes.
Address The Mayor.

Tex., Petersburg.—School Board receives
bids through R. S. Glenn, Abilene, Tex., to
erect school; cost \$7500; plans at office School
Board, Petersburg, and Mr. Glenn.

Tex., Sherman.—J. C. Pyle, Supt. of
Schools, receives bids until Oct. 10 to erect
fireproof school, including plumbing, heat-
ing and wiring; plans and specifications at
office C. H. Page & Bro., Archts., Austin,
and S. B. Elliot, Sherman. (Lately noted.)

Va., Petersburg.—School Board receives
bids until Oct. 15 to erect high school; plans
at office Ferguson, Calrow & Wrenn, Archts.,
404 Mechanics' Bldg., Petersburg, and 33 Vir-
ginia Nat'l Bank Bldg., Norfolk, on and
after Sept. 25.

Va., Richmond.—Tuckahoe School Dist.
voted \$35,000 bonds to erect school at West-
hampton. Address Dist. School Trustees.
(Lately noted.)

Va., Richmond.—School Board adopted
plans by Chas. M. Robinson, Inc., Rich-
mond, for proposed Kensington Ave. School;
fireproof; red tapestry brick; ornamented
with terra-cotta; marquise over each door-
way; classic style; 3 stories; 30 classrooms,
administration offices, etc.; accommodations
for 1250 pupils; 2 inclined planes besides
stairs; cost \$131,000.

W. Va., Charleston.—City plans to issue
\$150,000 bonds to erect seventh and eighth-
grade school building on West Side. Address
The Mayor.

STORES

Ark., Jonesboro.—J. & A. Hummelstein
will erect business building; 200x60 ft.; oc-
cupied by Jonesboro Hide & Fur Co.

Ark., Little Rock.—Central Supply Co. is
having plans prepared by Mann & Stern,
Little Rock, to erect wholesale hardware
building; 35x140 ft.; 5 stories and basement;
reinforced concrete; fireproof; built-up roof;
reinforced concrete floors; electric lighting;
prismatic sidewalks; cost \$65,000; steam heat,
\$3500; electric elevator, \$2500; plans complete
in about week.

D. C., Washington.—People's Drug Store,
7th and K Sts., will remodel store and dwell-
ing at 804 H St. N. E.; cost \$4500.

Fla., High Springs.—W. C. Summers will
erect building; brick and concrete founda-
tion; composition roof; cost \$4000.

Fla., Miami.—H. T. Whaler, Pres., Miami
Telephone Co., is having plans prepared by
H. H. Mundy, Miami, for store and apart-
ment building; 2 stories.

Fla., Quincy.—F. P. May will erect building
to contain 3 stores.

Ky., Lexington.—Bryan-Hunt Wholesale
Grocery Co. will erect building; 70x220 ft.; 3
stories; brick and stone; work begins about
Nov. 1.

Ky., Whitesburg.—Dr. D. F. Smith will
erect office and business building.

Md., Baltimore.—Tire Co. of America is
having plans prepared by Theo. Wells Fletsch,
1210 American Bldg., Baltimore, for 4-story
store and apartment building at 133 W.
Mount Royal Ave.; 16x30 ft.

Mo., Kansas City.—Joseph Weston will
erect brick business building; cost \$4000.

Mo., St. Louis.—Charles Schilli will erect
store and dwelling.

N. C., Durham.—Eldred Department Store,
J. W. Eldred, Gen. Mgr., acquired Wright

Bldg. at Main and Corcoran Sts. and will
remodel; construct front, remodel interior,
etc.; provide 20,000 sq. ft. floor space.

Okla., Ardmore.—Jones, Green & Hinkle
are reported planning to erect 6-story busi-
ness and office building.

Okla., Bristow.—J. L. Davis will erect 2-
story concrete business building.

S. C., Iva.—W. T. A. Sherard is having
plans prepared by C. Gadsden Sayre, Ander-
son, S. C., for mercantile building; plate and
prism glass; concrete floors; Barrett specifi-
cation roof; brick and stone trimmings;
metal ceiling; cost not determined; day
labor. Address the owner.

Tex., Austin.—I. O. O. F. will erect busi-
ness and lodge building. (See Association
and Fraternal.)

Tex., Brenham.—Schleider Bros. will erect
2-story brick store; cost \$20,000.

Tex., Dallas.—H. D. Ardrey will erect
brick business building; 50x50.

Tex., Dallas.—S. Kirkgard will erect store;
cost \$8000.

Tex., El Paso.—Bryan Bros. have plans by
Gibson & Robertson, El Paso, to remodel
store; steam heat; cost \$5000; conduit light-
ing system, \$400; construction begins Jan.
1; bids opened.

Tex., El Paso.—James A. Dick Co. has
plans by Gibson & Robertson, El Paso, for
building for wholesale grocery store; brick
and mill construction; asphalt gravel roof;
wood floors; hydraulic, electric return ele-
vator system; cost \$30,000; bids opened
September 27.

Tex., Ennis.—Charles Golbe of Ferris, Tex.,
will erect 2-story brick business building;
lower floor for stores; upper, rooming.

Tex., Ennis.—C. B. Pittman will erect 2
store buildings on West Ave.; under con-
struction.

Tex., Mexia.—Pat B. Jones will erect store
building; 26x115 ft.; 2 stories; brick, marble
and plate glass; probably gravel and pitch
roof; wood and tile floors; natural gas heat;
electric lights; cost about \$10,000; architect
not selected; construction begins about Mch.
1. (Lately noted.)

Tex., Paris.—C. P. Johnson will erect
2-story business building.

Tex., San Antonio.—Firestone Tire & Rub-
ber Co., H. L. MacGregory, Mgr., will erect
building on Avenue C.

Tex., San Antonio.—J. M. Watson will
erect 3-story fireproof building; foundation
to support additional stories.

Tex., Uvalde.—Uvalde Lodge, A. F. & A.
M., has plans for store and lodge building.
(See Association and Fraternal.)

Tex., Waco.—R. C. Allen of Hearne, Tex.,
will erect store to replace burned structure.

Va., Norfolk.—N. B. Joyner will erect store
and office building. (See Bank and Office.)

W. Va., Lumberport.—I. O. O. F. will erect
store and lodge building. (See Association
and Fraternal.)

W. Va., Lumberport.—Hedges & Oyster Co.
will probably erect building in spring to re-
place structure lately noted damaged by fire.

THEATERS

Md., Baltimore.—John T. Sangville, Jr.,
has plans by J. C. Spedden, 1640 Hanover
St., Baltimore, for moving-picture theater at
Port Ave. and Lohman St.; 1 story; brick;
40x100 ft.; cost about \$3000; construction by
owner.

Md., Baltimore.—Joseph M. Eser has plans
by John Freund, 11 E. Lexington St., Bal-
timore, to erect moving-picture theater at
223-43 E. Fayette St.; seating capacity 600;
cost \$10,000. (Louis Helldorfer lately noted
to erect this building.)

S. C., Union.—Mr. and Mrs. Storm, owners
of Edisona Theater, will enlarge and re-
model building.

Tex., Galveston.—A. Martini plans to erect
\$10,000 to \$12,000 brick moving-picture thea-
ter.

WAREHOUSES

Ark., Jonesboro.—Planters' Warehouse Co.
incptd. with \$5000 capital by W. S. Roberts,
J. P. Whidden and E. L. Westbrook.

Fla., Tarpon Springs.—Sponge Exchange of
Tarpon Springs, Geo. Emmanuel and others,
will erect storage building; brick; asphalt
roof; cement floors and sidewalks; cost \$5000
to \$6000. (Lately noted.)

Ky., Paducah.—Paducah Box & Basket Co.
will erect storage building to replace struc-
ture lately noted damaged by fire; 80x180 ft.;
frame; composition roof; wood floors; cost
\$3500.

Md., Baltimore.—Bohannon & Lewy are
having plans prepared by Oliver B. Wight,
1122 Monsey Bldg., Baltimore, for theater
at 607-09 N. Fremont Ave.; brick; 1½ stories,

BUILDING CONTRACTS AWARDED

APARTMENT-HOUSES

Fla., Seabreeze.—Thoburn Apartment Co., Grandview Ave. and Duke St., has plans by and let contract to Fuquay & Gheen, Daytona Beach, to erect apartment-house; 28x12 ft.; ordinary construction; asphalt shingle roof; wood floors; gas radiators. (Lately noted.)

Mo., St. Louis.—J. L. Epstein will erect 2-story tenement; cost \$10,000; R. Wageley, Contr., St. Louis.

Tex., Dallas.—C. H. Read, 1010 Busch Bldg., let contract to Cobb & Crofford Co., Dallas, to erect apartment-house on Junius St.; 2 stories; 20 rooms; brick veneer; composition roof; oak floors; heating not decided; cost \$12,500; Brickley & Brickley, Architects, Busch Bldg., Dallas.

ASSOCIATION AND FRATERNAL

Ark., Searcy.—Chas. E. Caldwell let contract to erect business and lodge building. (See Stores.)

Fla., Gainesville.—Alpha Tau Omega Fraternity of University of Florida let contract to Henry Milliner, Gainesville, to erect chapter-house; wood; composition roof; wood floors; fireplaces; cost \$4,000; completion by Jan. 1; Shields Warren, Archt., Gainesville. (Lately noted.)

BANK AND OFFICE

Fla., Plant City.—Plant City Growers' Assn. has plans by and let contract to R. E. Fletcher, Plant City, to erect building for warehouse, storehouse, offices and packing; 66x140 ft.; brick, steel and iron; galvanized iron roof; wood floors; no heating plant; cost \$6,000; electric lights; construction begins in a week. (Lately noted.)

Okla., Tulsa.—Simon Jankowsky let contract to Universal Construction Co., Tulsa, to erect 4 additional stories to 5-story building for offices of Texas Co.; lately noted; reinforced concrete; 50x140 ft.; steam heat; exterior walls Bedford stone; metal windows on 2 sides; elevators; cost \$100,000; George Winkler, Archt., Tulsa. (See Machinery Wanted.)

Tenn., Nashville.—Standard Property Co. let contract to Foster & Creighton Co., Nashville, to erect doctors' office building on Sixth Ave. North; 31x149 ft.; 2 stories and basement; reinforced concrete; asbestos roof; reinforced concrete floors; cost \$35,000; Marr & Holman, Architects, Nashville. (Previously noted.)

Tex., El Paso.—Texas Bank & Trust Co. let contract to V. E. Ware, El Paso, to remodel structure at Texas St. and Mesa Ave.; cost \$30,000.

Tex., El Paso.—Texas Bank & Trust Co. let contract to V. E. Ware, El Paso, to remodel building at Texas St. and Mesa Ave.; cost \$10,000. (V. E. Ware lately noted to remodel building.)

Va., South Hill.—Bank of South Hill let contract to erect addition.

CHURCHES

Ala., Auburn.—Presbyterian Church let contract to S. L. McIntosh, Opelika, Ala., to erect building; 2 stories and basement; 55x55 ft.; brick veneer; hot-air heat; cost \$10,000; completion in 5 months.

Miss., Clarksdale.—Methodist Church let contract to J. Alexander Construction Co., Memphis, Tenn., to erect building; cost \$50,000; C. O. Pfeil, Archt., Memphis. (Lately noted.)

Mo., St. Louis.—West Presbyterian Church let contract to Daniel Evans Construction Co., 429 Odd Fellows' Bldg., St. Louis, to erect building; about 60x150 ft.; stone, brick and iron; slate roof; reinforced and joist floor construction; cost \$60,000; steam heat, \$3,000; gas and electric lights, \$2500; granite and reinforced concrete sidewalks, \$2,000; J. M. Dunham, Archt., Chemical Bldg., St. Louis. Address Contr. (Lately noted.)

N. C., Salisbury.—First Methodist Church let contract to A. R. Lazenby, Salisbury, to erect \$50,000 structure. (Previously noted.)

N. C., Winston-Salem.—Grace Presbyterian Church let contract to D. C. Suggs, Greensboro, N. C., and Winston-Salem, to erect building; 48x90 ft.; tapestry brick and limestone; asbestos shingle roof; wood and oak floors; hot-air heat; electric and gas lighting; cement sidewalks; cost \$10,000; C. Gilbert Humphreys, Archt., Winston-Salem.

Tenn., Paris.—Presbyterian Church let contract to Otto Houli to erect building;

buff mat-brick construction; colonial style; G. Tandy Smith, Archt., Paducah, Ky.

Tex., Paris.—Methodist Protestant Church has plans by and let contract to C. B. Barnes, Paris, to erect building; 48x58 ft.; brick veneer; metal shingle roof; yellow pine floors; heating and lighting not decided; cost \$5,000. Address Rev. T. L. Garrison. (Lately noted.)

Va., Lynchburg.—Westminster Presbyterian Church let contract to C. W. Hancock & Son, Lynchburg, to remodel building; reported cost \$10,000; McLaughlin & Johnson, Architects, Lynchburg. (Lately noted.)

CITY AND COUNTY

Ala., Mobile.—Jail.—County let contracts for improvements and additions to courthouse and jail. (See Courthouses.)

Fla., Pompano.—City Hall.—City let contract to erect city hall; concrete and frame; cost \$3,000. Address The Mayor.

Ga., Cartersville.—City Hall.—City let contract, exclusive of lighting, wiring and plumbing, to R. W. & E. W. Smith, Cartersville, to erect city hall; 40x104 ft.; ordinary construction; gravel roof; tile and wood floors; cost \$13,500; steam heat, \$1,500; electric and gas lighting, \$800; sidewalks, \$325; Edwards & Sayward, Architects, Atlanta. Address Paul Gilbreath, Mayor. (Lately noted.)

Ga., Cartersville.—City Hall.—City let contract at \$11,840, exclusive of lighting, wiring and plumbing, to R. W. & E. W. Smith, Cartersville, to erect city hall; 40x100 ft.; ordinary construction; gravel roof; tile and wood floors; steam heat; electric lights; Edwards & Sayward, Architects, Atlanta. (Lately noted.)

COURTHOUSES

Ala., Mobile.—County Commrs. let following contracts for improvements and additions to courthouse and jail: At \$510 to Mobile Cornice & Roofing Co., roofing courthouse and jail; \$7131 to John P. Emrich, repairs and rebuilding tower; \$3586 to Monahan Plastering Co., lathing and stucco work; contractors all of Mobile; plans by and construction under supervision of A. H. Downey, Van Antwerp Bldg., Mobile. (Lately noted.)

Tex., Paris.—Lamar County Commrs. engaged Buchanan & Glider, Fort Worth, to erect courthouse to cost about \$150,000; 100x100 ft.; fireproof; reinforced concrete; composition roof; reinforced concrete floors; low-pressure gravity heat; also let other contracts as follows: Plumbing, \$9687, Modern Plumbing & Heating Co., Paris; heating, \$10,148, Kennison Bros., Dallas; electrical work, \$4180, R. M. Johnson & Co., Dallas; Sanguinet & Staats, Fort Worth, and Barry & Smith, Paris, Architects. (Lately noted.)

DWELLINGS

Ala., Opelika.—M. M. McCall let contract to S. L. McIntosh, Opelika, to erect residence; Spanish villa style; 2 stories; exterior light pressed brick; red Spanish tile roof; hardwood floors; hot-water heat; plans by contractor.

Ark., Little Rock.—Mrs. Pearl Pepin let contract to Wm. Bonner, 3214 Battery, Little Rock, to erect residence; brick veneer; slate and gravel composition roof; John P. Almand, Archt., Little Rock. Address contractor. (Lately noted.)

D. C., Washington.—I. Freund and T. H. Melton let contract to Melton Construction Co. to erect 11 two-story brick dwellings at 1102-1112 Ellicott St. and 4812-4820 41st St.; cost \$22,000; B. Stanley Simmons, Archt., Real Estate Trust Bldg., Washington.

Fla., Jacksonville.—S. R. Marks let contract to L. M. Boykin, Jacksonville, to erect residence; brick veneer; asphalt shingle roof; wood floors; hot-air heat; electric lights; cost \$8,500; Roy A. Benjamin, Archt., Jacksonville; all materials purchased; construction begun. (Lately noted.)

Fla., Ormond.—A. B. Wallace, Springfield, Mass., let contract to S. H. Gove, Daytona, Fla., to erect residence; 75x76 ft.; garage, 26x37 ft.; stucco on metal bath; Spanish tile roof; wood floors; 2 hot-air furnaces; city lighting; cost \$30,000; Kirkman & Parlett, Architects, Springfield, Mass. Address contractor. (Lately noted.)

Fla., Sarasota.—I. R. Burns let contract to Howard & Wrend, Sarasota, to erect 8-room residence and 5 six-room bungalows; frame; composition roof; Florida pine floors; electric lights; cost \$15,000; H. N. Hall, Archt., Sarasota. Address owner. (Lately noted.)

Ga., Augusta.—Mrs. Geo. J. Fargo let contract to Stratton Hard, Atlanta Nat'l Bank Bldg., Atlanta, to erect residence; brick and stucco; asphalt shingle roof; steam heat; hardwood floors; tiled terraces; cost \$15,000; Bleckley & King, Architects, Augusta.

Ga., Marshallville.—C. C. Haslam let contract to F. M. Marshall, Macon, to erect \$3,500 frame residence; tiled baths; P. E. Dennis, Archt., Macon.

La., New Orleans.—Citizens' Homestead Assn. let contract to Wm. R. Gilbert, New Orleans, to erect residence; cost \$5,500.

La., New Orleans.—Henry H. Flaspoller let contract to Montange Bros., New Orleans, to repair residence; cost \$5,500.

La., New Orleans.—Conservative Homestead Assn. let contract to Thos. A. Pollock, Jr., New Orleans, to erect 5 dwellings; cost \$5,800.

La., New Orleans.—Eureka Homestead Society let contract to H. Schillinger, Jr., New Orleans, to erect \$4,200 residence, and to Hugh A. O'Keefe, New Orleans, to erect \$5,300 residence.

Mo., St. Charles.—Miss Zumbel let contract to Herman Henderman, St. Charles, to erect 6-room frame residence.

Mo., St. Louis.—F. Heuermann, 3106 Chipewa St., let contract to Arthur Hess, 3508 Connecticut St., St. Louis, to erect residence; 45x30 ft.; brick; slate roof; hardwood floors; hot-water heat; electric lights; cost \$5,000; Aug. Foell, Archt., St. Louis. Address contractor. (Lately noted.)

N. C., Asheville.—Geo. S. Powell has plans by and let contract to Carolina Wood Products Co., Asheville, to erect three 5 and 6-room residences; brick and wood; metal roof; concrete and wood floors; electric lights; cost about \$3,000 each; hot-air heat about \$500. Address owner. (Lately noted.)

N. C., Winston-Salem.—W. W. Briggs let contract to E. B. Newkirk, 235 Boulevard, Winston-Salem, to erect residence; 7 rooms; frame; cost \$4,000; C. Gilbert Humphreys, Archt., Winston-Salem. (Lately noted.)

S. C., York.—Cannon & Co. let contract to erect 50 cottages in Cannon mill village near York; cost about \$50,000.

Tex., Beaumont.—W. M. Creek has plans by C. A. Logan, Beaumont, for two 2-story frame residences; shingle roof; cost \$350 each; Reese-Corriher Lumber Co., Contr., Beaumont.

Tex., Brenham.—Wm. Zeiss let contract to Frank Lewandowsky, Brenham, to erect 10-room residence with basement; wood and brick; fireproof shingle roof.

Tex., Dallas.—A. T. Loyd let contract to H. J. Curtis, Dallas, to erect residence at Beverly Drive and Preston Rd.; 3 stories; 20 rooms; terra-cotta; tile roof; first floor finished in mahogany; dance hall 44x52 ft.; porches and pergolas; 5 baths; lavatories for each bedroom; cost \$100,000; Hubbell & Greene, Architects, Dallas.

Tex., Lubbock.—John F. Robinson let contract to erect residence.

Tex., Orange.—McLean Realty Co. let contracts to erect residences for T. J. Arnold and H. E. Stephens.

Va., Richmond.—G. M. Woody, 700 Fourth Ave., let contract to F. H. Boatwright, Richmond, to erect dwelling at 211 Victor St.; 2 stories; 29x35 ft.; frame and stucco; slate roof; first floor, hardwood; second floor, pine; hot-water heat, electric lighting and concrete sidewalks in general contract; cost \$4,700; I. T. Skinner, Archt., Richmond.

Va., Staunton.—H. H. Clem let contract to Lee Argenbright, Staunton, to erect frame bungalow; cost \$4,000.

W. Va., Dunbar.—Isadore Schwabe let contract to J. C. Fisher, Charleston, to erect 12 residences.

W. Va., Moundsville.—Jas. H. Wade let contract to C. E. Baker, Moundsville, to erect 4 dwellings; bungalow style; 5 rooms; gas and electric lights; furnace heat, etc.

W. Va., Moundsville.—Dr. J. J. Duffy let contract to C. E. Baker, Moundsville, to erect 9-room residence.

GOVERNMENT AND STATE

Fla., Orlando.—Postoffice.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., let contract at \$45,400 to West Chester Engineering Co., to erect postoffice; total cost \$60,000. (Lately noted.)

HOSPITALS, SANITARIUMS, ETC.

W. Va., Clarksburg.—Macon Hospital let contract to R. R. Kitchen & Co., Wheeling, W. Va., to erect 4-story building; 39x95 ft.; cost \$50,000.

HOTELS

Fla., Daytona.—Mrs. J. H. Parkinson has plans by and let contract to Fuquay & Gheen, Daytona Beach, Fla., to erect addition to Hotel Islington; 63x85 ft.; 2 stories and basement; ordinary construction; chip-slate surfaced asphalt shingle roof; wood floors; furnace heat; cost \$14,000. Address contractor. (Lately noted.)

Fla., Daytona Beach.—W. H. and E. R. Ayres have plans by and let contract to Fuquay & Gheen, Daytona Beach, to erect addition to Daytona Beach Hotel; 66x32 ft.; 4 stories; ordinary construction; built-up roof; wood floors; gas radiators; cost \$18,000. (Lately noted.)

Ga., Lagrange.—Howard and Henry Park let contract to erect stores; upper stories for hotel purposes. (See Stores.)

Md., Baltimore.—Southern Hotel Co., Calvert Bldg., has plans by Otto G. Simonson, Maryland Casualty Tower Bldg., Baltimore, and let contract to Longacre Construction Co., New York, to erect hotel at Light and German Sts.; 92.6x148 ft.; 15 stories; steel frame; curtain walls; terra-cotta floor arches; promenade tile roof; cement, tile, wood and terra-cotta floors; three 150 H. P. boilers for steam-heating plant; electric lighting supplied by 3 generators of 100, 125 and 175 K. W.; granolithic sidewalks and vault lights; 3 electric traction high-speed elevators and 3 lifts; cost \$750,000; construction under supervision of Geo. H. Thomas, Gen. Mgr. of Longacre Construction Co. (Lately noted.)

N. C., Asheville.—J. M. Childs and others let tentative contract to Carolina Wood Products Co., Asheville, to erect Kenilworth Inn; fireproof construction; cost \$250,000; Charles Parker, Archt., Asheville; completion by July 1, 1917. Contractor wires Manufacturers Record: "Cannot give details at present."

Okla., Chickasha.—J. J. Moon and S. A. Touchton, Gainesville, Tex., let contract to L. P. Larson, Chickasha, to remodel Early Hotel.

MISCELLANEOUS

Ark., Little Rock.—Music Studio.—F. B. T. Hollenberg let contract to Stewart-McGhee Construction Co., Little Rock, to erect music studio on E. Capitol Ave.; 50x140 ft.; 3 stories; fireproof; built-up roof; concrete floors; cost \$60,000; steam heat, \$3,500; electric elevator, \$2,500; electric lighting; Mann & Stern, Architects, Little Rock. Address contractor.

Md., Catonsville.—Convent.—Dominican Sisters of Perpetual Rosary in Paradise Land let contract to J. J. O'Connor, 1110 Park Ave., Baltimore, to erect 2-story brick convent; 35x100 ft.; Geo. R. Callis, Archt., 55 Knickerbocker Bldg., Baltimore.

SCHOOLS

Ark., Jonesboro.—School Board let contract at \$27,771 to Seymour Bros., Jonesboro (exclusive of plumbing and heating), to erect high school; total cost \$35,000; R. H. Hunt, Archt., Chattanooga, Tenn. (Lately noted.)

Ark., Lonoke.—School Board let contract to J. L. Abbott, Little Rock, to erect addition to school; cost \$4,495.

Ga., Fitzgerald.—City let contract at \$18,750 to Austin & Stone, Ocala, Ga., to erect two 8-room ward schools; 64x167 ft.; 1 story; brick-veneer; pine floors; galvanized iron of tin roofs; cost \$11,500 each; heating plants \$500 each; stoves at present; Jas J. Baldwin, Archt., Anderson, S. C. Address contractors. (Lately noted.)

Ga., Newman.—Board of Education let contract to Brown & Haynie to erect colored school; 2 stories with basement; cost \$4,700, exclusive heating and plumbing; total cost \$7,500; Haralson Bleckley, Archt., Third National Bank Bldg., Atlanta.

Ky., Covington.—Board of Education let contract at \$128,825 to John J. Craig, 24 W. 9th St., Covington, to erect Homesdale High School; Weber, Werner & Adkins, Archt., 1206-7 Mercantile Library Bldg., Cincinnati. (Lately noted.)

La., Alexandria.—Rapides Parish School let contract to Hudson Construction Co., Alexandria, to erect colored school; 100x103 ft.; common brick; Barrett specification roof; cement and wood floors; jacketed stoves; C. Scott Yeager, Archt., Alexandria. Address Contr. (Lately noted.)

N. C., Cornelius.—Dist. No. 1, Deweese Township, let contract to W. E. Potts to erect school. (Lately noted to vote Oct. 9 on \$15,000 bond issue.)

N. C., White Plains.—School Board let

contract to Dwight Cook to erect 2-story high-school building; seating capacity 500.

Okl., Beaver.—School Board let contract to W. P. Shaw, Beaver, to erect school; 2 stories and basement; 76x46 ft.; pitch and gravel roof; concrete and yellow pine flooring; contractor will purchase materials; contract for steam-heating plant let to Oiler Heating Co., McAlester, Okla.; Hawk & Parr, Archts., Oklahoma City. (Lately noted.)

Okl., Gate.—School Board let contract to M. T. Murray, Altus, Okla., to erect 2-story school building; 37x87 ft.; face and common brick; pitch and gravel roof; yellow pine floors; cost \$6000; contractor will purchase materials; Hawk & Parr, Archts., Oklahoma City. (Lately noted.)

Okl., Muskogee.—Hargrove College let contract to Wm. F. Herber, Muskogee, to repair and remodel college; cost \$10,500.

Okl., Sapulpa.—County Commrs. let contract to Manhattan Construction Co., Muskogee, Okla., to erect school building; fireproof; cost \$24,000; let contract at \$1700 to Cook & McDonald, Oklahoma City, for heating; Hair & Tonini, Archts., Oklahoma City; Gus L. Corey, County Clerk, Sapulpa. (Noted in August.)

Okl., Tulsa.—Kendall College let contract to erect 3-room addition; will probably erect science hall and 2 dormitories later.

S. C., Greenwood.—Greenwood Cotton Mills let contract to Builders & Supply Co., Anderson, S. C., to erect school; stone and brick veneer; accommodate 300 pupils.

S. C., Greenwood.—Grendel Mill No. 1 let contract to Mauldin & Chapman to erect school; brick veneer and granite; 2 stories and basement; auditorium; J. E. Summer, Archt., Greenwood.

Tex., Grapevine.—Estelle School Dist. let contract to C. C. Estelle & Son, Grapevine, to erect 2-story brick school; Geo. S. Glenn, Archt., Fort Worth.

Tex., Jarrell.—School Board let contract to W. J. Gailey, Mineral Wells, Tex., to erect brick and concrete school building; cost \$12,000; C. H. Leinbach, Archt., Dallas. (Lately noted.)

Va., Luray.—School Board, Shenandoah Iron Works Dist., let contract to Mims, Speake & Co., Luray, to erect 7-room school to cost \$4000; 4-room, \$2500; three 2-rooms, \$1300 each; four 1-room, \$600 each; frame; galvanized iron roof; wood floors; jacketed stoves; John H. Booton, Archt., Luray. (Noted in August.)

STORES

Ark., Conway.—Dr. O. Tydings, 31 N. State St., Chicago, let contract to Jennings & Adams to erect store building; 25x110 ft.; 1 story; brick; gravel roof; concrete base with hardwood floors; stoves; electric lights; cost \$4400; B. G. Wilson, Archt., Conway. (Previously noted.)

Ark., Little Rock.—F. B. T. Hollenberg let contract to Stewart-McGhee Construction Co., Little Rock, to erect store building at 415 Main St.; 3 stories; 25x140 ft.; ordinary brick construction; built-up roof; hardwood floors; electric lighting; cost \$25,000; direct-indirect steam heat, \$3000. Address contractor. (Lately noted.)

Ark., Searcy.—Chas. E. Caldwell let contract to T. E. Henderson to erect 2-story business and lodge building; cost \$12,500.

Fla., Plant City.—Plant City Growers' Association let contract to erect building for storehouse, etc. (See Bank and Office.)

Ga., Lagrange.—Howard and Henry Park let contract to erect 4 stores on Bull St.; 25x100 ft.; 3 stories; upper stories for hotel; plan to erect 4 other stores later.

Ga., Savannah.—J. S. Pinkusohn Cigar Co. let contract to Willard & Cunningham, Savannah, to remodel building for stores and offices; 2 stories; 3 stores and 5 offices; Levy & Clarke, Archts., Savannah.

N. C., Winston-Salem.—Dr. H. G. Chatham let contract to Travers-Wood Co., Inc., Richmond, Va., to erect department store building; 45x90 ft.; 3 stories and basement; reinforced concrete; tar and gravel roof; steam heat; electric lighting; vault lights; cost \$20,000; Northrup & O'Brien, Archts., Winston-Salem. Address contractor. (See Machinery Wanted—Building Material.)

Okl., Leslie.—A. G. Killebrew has plans by and let contract to T. A. Pryor to erect hardware store; brick; galvanized iron roof; 25x100 ft.; wood floors; cost \$6000.

Okl., Purcell.—Purcell Wholesale Grocery Co. will erect 2 brick buildings; contract let.

Tex., Austin.—Co-operative Society University of Texas has plans by Kuehne, Chasey & Giesecke, Austin, and let contract at \$14,175 to Jacob Wattenger, Austin, to erect store building; 40x80 ft.; 1 story and basement; ordinary construction with concrete alternate; gravel roof; Arco hot-water heating system; city lighting; American 3-way prism vault lights; hand-power elevator; cost \$15,000; also let contract at \$2033 to Austin Electric Supply Co., Austin, for heating, plumbing and wiring. (Lately noted.)

Tex., San Antonio.—Ed. Dreiss, 407 Guenther St., let contract to McKinzie Constr. Co., San Antonio, to erect building to be occupied by Guarantee Shoe Store; reinforced concrete; concrete, tar and gravel roof; concrete and oak floors; electric lights; cost \$6000; Alfred Giles Co., Archt., F Bldg., San Antonio. (Lately noted.)

Va., Richmond.—A. L. Straus & E. H. Gunst have plans by Albert F. Hunt and let contract to John T. Wilson & Co., both of Richmond, to erect addition to Burk & Co.'s store; 26 ft. frontage; 4 stories; cost \$25,000 to \$30,000; work begins about Nov. 1; will soon call for bids to alter stores at 908-10 Main St., adjoining; Burk & Co. will also remodel present building; install front, fixtures, erect marquee, etc.

THEATERS

Ark., Hamburg.—W. R. Goyens and Mrs. T. W. Whitlow let contract to W. C. Bunn, Hamburg, to erect building for garage 25x10 ft. and theater 26x100 ft.; brick; metal and plate-glass front; Johns-Manville roof; concrete floor in garage; theater floor, wood; stoves; electric lights; cost \$7000; concrete sidewalks. Address contractor. (Lately noted.)

Va., East Radford.—W. R. Roberts, Jr., let contract to J. T. Stump, East Radford, to erect moving-picture theater; 30x110 ft.; brick; other details not determined; cost \$5000. (Lately noted.)

WAREHOUSES

Fla., Bradentown.—Wilson & Toomer, Jacksonville, have plans by and let contract to T. W. Hullinger & Son, Bradentown, to erect storehouse for fertilizer and chemicals; corrugated iron sides and roof; double wood floors; cost \$3000. (Lately noted.)

Fla., Plant City.—Plant City Growers' Association let contract to erect building for offices, warehouse, storehouse, etc. (See Bank and Office.)

S. C., Spartanburg.—W. C. Cooke & Co. let contract to Bryson & Webber, Spartanburg, to erect cotton warehouse; 100x100 ft.; 2 stories; brick; gravel roof; concrete and wood floors; cost \$10,000.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

"WANTS"

Aluminum Watch Holder.—R. E. Jones, 389 No. 3 Notch St., Troy, Ala.—Correspondence with view to placing order for manufacture of safety watch holder of aluminum.

Asbestos Machinery.—D. G. Zeigler, Son & Co., Bloomville, S. C.—Data and prices

on crushers, grinders, screens, automatic sucking machines, elevators and conveyors for asbestos mining and manufacturing plant to be located near Stony Point, N. C.

Belt Lacer.—Hackley Morrison, P. O. Box 129, Richmond, Va.—6 or 8-in. Peerless belt lacing machine.

Belt Lacer.—Hackley Morrison, P. O. Box 129, Richmond, Va.—Second-hand 6 or 8-in. Peerless belt-lacing machine; first-class condition.

Bender (Angle Iron).—D. L. Casey Machine Co., Springfield, O.—Second-hand angle iron bender, to bend angle iron 1/4x1 1/2x 1 1/2-in. to 10-in. radius on inside.

Boiler.—Florida Fruit Syrup Co., Fort Pierce, Fla.—10 H. P. steam boiler; second-hand, 40 lbs., will do.

Brass Tubing, etc.—J. H. Berry, 211 Lawton Ave., Greenville, S. C.—Thin sheet brass and small brass tubing, 1/8 to 5/8-in. diam.

Bridge and Culvert Construction.—See Road Construction.—Marshall County Commrs., Marianna Road Dist., Holly Springs, Miss.

Bridge Construction.—See Road and Bridge Construction.—New Kent County Commrs.

Bridges (Concrete, etc.).—Kemper County Highway Commrs., Suprvs. Dist. No. 5, De Kalb, Miss.—To let contract Oct. 11 on about 100 bridges—cement and concrete. (See Road Construction.)

Bridges.—Cleveland County Commrs., J. J. Lattimore, Register of Deeds, Shelby, N. C.—Bids Oct. 3 to erect 3 bridges; about 300 tons steel required.

Bridges (Concrete, etc.).—Kemper County Highway Com., Suprvs. Dist. No. 1, De Kalb, Miss.—To let contracts Oct. 11 for about 100 bridges—cement and concrete; Snowden & Hauser, Jackson and Columbus, Miss.

Bridges.—Lowndes County Suprvs., B. A. Lincoln, Clerk, Columbus, Miss.—Receive bids Oct. 5 to build concrete bridges or culverts at stations 41, 45, 154, 171, 212, 323 and 402 on Wolfe Rd., Dist. 1; at stations 137, 316 and 321 on Ridge Rd., Dist. 1; also concrete culvert, 3x16, on Steens and Caledonia Howard's Creek Rd., Dist. 1; plans and specifications on file office of Chancery Clerk; C. L. Wood, County Engr., Columbus.

Bridges.—Lowndes County Suprvs., B. A. Lincoln, Clerk, Columbus, Miss.—Receive bids Oct. 2 on following: Refloor iron bridge and repair concrete pier to bridge across McGowan Creek; refoor iron bridge on Macdon Rd. across Ksanaa Creek; build wooden or concrete bridge over Yellow Creek on Sanders Mill and Fayette Rd.; approach to Air Line Bridge over Luxapallia Creek; building 6x1 concrete culverts at stations 302 and 333, and 10x6 culvert at station 404; flooring bridge across Mottley Creek, Gilmer Rd., Dist. 5; also steel railing on iron bridge across Tombigbee River; plans and specifications on file Chancery Clerk's office; C. L. Wood, County Engr., Columbus.

Building Materials.—Universal Construction Co., Tulsa, Okla.—Prices on building materials for \$100,000 4-story addition to office building.

Buttons, etc.—Fortunate Habib, Malta, Italy.—To establish commercial relations with manufacturers of patent pressure buttons like samples furnished; oil lamps for kitchen use; hosiery, men's furnishing, etc.

Building Material.—Travers-Wood Co., Inc., Richmond, Va.—Prices on building material for \$20,000 store building at Winston-Salem, N. C.

Cars.—See Locomotive and Cars.—F. & G. Eschautzer.

Cars.—Ralph R. Lewis Co., 538 Commercial Trust Bldg., Philadelphia, Pa.—25 1 1/2 to 2 1/2-ton 42-in. gauge steel mine cars; end dump.

Cars (Dump).—H. B. Williams, Cincinnati, O.—Twelve 6-yd. 2-way-dump standard gauge cars; prefer K. & J. or Western to automatic couplers.

Cases (Shipping, Paper).—Anti-Choleric Stock Remedy Corp., Box 887, Norfolk, Va.—Corrugated or other paper shipping cases; from manufacturers in vicinity of Baltimore preferred.

Chairs.—H. M. Wade Mfg. Co., Charlotte, N. C.—To correspond with manufacturers of large wide armchairs, such as used in dairy lunchrooms.

Compound (Boiler).—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on 404,000 lbs. boiler compound, schedule 193, various deliveries.

Conveyors.—See Asbestos Machinery.—D. G. Zeigler, Son & Co.

Conveying Equipment.—See Crushing and Screening (Slag) Plant.—Birmingham Slag Co.

Cotton (For Smokeless Powder).—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on 2,100,000 lbs. cot-

ton for smokeless powder, schedule 183, delivery Washington.

Crane (Locomotive).—Equity Equipment Co., Bell Block, Cincinnati, O.—15 or 20-ton locomotive crane, 8-wheel trucks, suitable for grab bucket; give full details.

Crane (Floating).—Bureau Yards and Docks, Navy Dept., Washington, D. C.—Bids until Nov. 11 for 250-ton floating revolving crane for Navy-yard, Mare Island, Cal. Specifications (No. 2259) on application to Bureau or to Commandant of navy-yard named.

Crane (Locomotive).—Bureau Yards and Docks, Navy Dept., Washington, D. C.—Bids until Nov. 11 for locomotive jib crane of 50 gross tons capacity at Naval Station, Pearl Harbor, T. H. Plan and specification (Spec. 2251) on application to Bureau or to Commandant of naval station named.

Creamery Equipment.—E. Tomax, Dade City, Fla.—Data and prices on creamery equipment; to manufacture butter, cheese, etc.

Crushing Machinery.—E. Cockrell, 1365 Carter Bldg., Houston, Tex.—Machinery for grinding and crushing fullers earth and preparing it for market.

Crushing and Screening (Slag) Plant.—Birmingham Slag Co., 1607 Jefferson County Bank Bldg., Birmingham, Ala.—Prices on two 50, two 75, one 150, one 250 and one 300 H. P. electric motors; Nos. 6, 8, 9 or 10 crushers and pulverizers; screening and conveying equipment; transportation equipment.

Cupola.—See Foundry Equipment.—Tilley-Reimann Iron Works.

Dam (Concrete).—City of Hamlin, Tex., L. Randals, City Secy.—Bids until Oct. 6 on labor and materials (excepting cement) to complete construction of reinforced concrete dam across California Creek for city water supply; plans, specifications, etc., obtainable for \$25 at office of H. C. Hord, Jr., City Engr.

Drainage.—Beaver Dam Assn., L. J. Edwards, Prest., Route 2, Winterville, Ga.—Correspondence, with view to estimates, on drainage construction; probably drain 1200 to 1500 acres.

Drainage.—Commrs. Everglades Drainage Dist., F. C. Elliott, Chief Drainage Engr., Tallahassee, Fla.—Bids until Oct. 31 to construct canal 19 mi. long, extending northward from Lake Okechobee; requires removal about 1,600,000 cu. yds. material; information on application.

Drills.—Mims Concrete Products Co., Luray, Va.—Second-hand steam electric or air drill for holes at least 20 ft. deep; for small quarry.

Drydock.—Bureau Yards and Docks, Navy Dept., Washington, D. C.—Bids until Oct. 21 for concrete drydock at United States Navy-yard, Norfolk, Va. Plans and specifications (Spec. 2258) on application to Bureau or to Commandant of navy-yard named.

Electric-Light Plants.—D. J. Gatchell, 3614 Park Place, Washington, D. C.—Literature on electric-light plants for hotel at Colonial Beach, Va.

Electric-Light Plant.—Oak Lawn Sugar Co., Box 589, Franklin, La.—Electric-light plant for residence.

Electric-Light Plant.—The Mayor, Duncan, Okla.—Bids on installation of street-lighting system; has \$5000 available for poles, generator, etc.; has purchased engines.

Electric-Light System.—Lula Light & Water Co., Lula, Miss.—Bids on equipment for electric-light system; opened Sept. 25; address T. H. McKenzie.

Electric Motor.—Tilley-Reimann Iron Works, Sistersville, W. Va.—Three-phase 220-volt 60-cycle electric motor to drive fan.

Electric Motors.—Hackley Morrison, P. O. Box 129, Richmond, Va.—15 H. P. 250-volt D. C. motors, 325 R. P. M.

Electric Motors.—See Crushing and Screening (Slag) Plant.—Birmingham Slag Co.

Electrical Equipment.—Crystal Ice & Coal Corp., W. W. Reimne, Mgr., Erwin, Tenn.—Prices on electrical equipment for power.

Electrical Machinery.—A. A. Slagle, Petersburg, Va.—Prices on water-wheel with governors of 60 H. P. capacity under 15 ft. head of water, with dynamo for 60 or 70 H. P. complete.

Electric Plant.—Colonial Lumber Co., J. D. Wyrick, Mgr., Bearden, Tenn.—Prices on electric plant, new or second-hand, for lighting small town.

Electric-plating Supplies.—Newtown Giant Incubator Corp., Harrisonburg, Va.—Data and prices on electro-plating supplies, especially for brass plating.

Elevators.—See Asbestos Machinery.—D. G. Zeigler, Son & Co.

Emery Cloth, etc.—American Cotton Novelty Co., Union, S. C.—Addresses of manufacturers of sandpaper, emery cloth and various kinds of grit on cloth.

Engine.—Hackley Morrison, P. O. Box 120, Richmond, Va.—80 H. P. Corliss engine.

Engine.—Chas. A. McLean, 412 Citizens' Bank Bldg., Norfolk, Va.—50 H. P. Erie City engine.

Engine.—John G. Duncan Co., 308 W. Jackson Ave., Knoxville, Tenn.—Price on second-hand 500 or larger Corliss engine for quick delivery.

Engine.—Bond Trustees, E. C. Broward, Chrmn., South Jacksonville, Fla.—Bids until Oct. 18 to furnish for light and water plant unallow type engine arranged for direct connection to 175 K. V. A. generator; specifications obtainable from Mr. Broward.

Fence (Steel).—Dept. of Interior, Bo Sweeney, Asst. Secy., Washington, D. C.—Bids until Oct. 4 to furnish steel fencing and gates for St. Elizabeth's Hospital; plans and specifications from Ch. Clerk of Dept.

Fertilizer.—Conrad Son Co., Museum Bldg., British Guiana.—To introduce chemical fertilizer with 25 per cent. ammonia content.

Flooring, Ceiling, Shingles, Lath.—Colonial Lumber Co., J. D. Wyrick, Mgr., Bearden, Tenn.—Prices on flooring, ceiling, shingles and lath; for retail trade.

Feldspar.—Chas. R. Fife Co., 1411 Central National Bank Bldg., St. Louis, Mo.—Feldspar with 10 per cent. and over of potash fertilizers; large quantities.

Foundry Equipment.—Tilley-Reimann Iron Works, Sistersville, W. Va.—Second-hand cupola, 8 tons capacity; gray-iron castings; blower; 3-phase 220-volt 60-cycle motor for fan; foundry sand; facings for ornamental ironwork; emery grinders; A1 condition.

Glass (Window).—See Iron, Steel, etc. Hong-Kong Mercantile Co.

Glove Machinery.—C. W. Roberts, Secy., Chamber of Commerce, Gastonia, N. C.—Data on manufacture of canvas gloves and prices on machinery.

Gravel.—Montgomery County Board of Revenue, Montgomery, Ala.—Bids until Oct. 16 to deposit 5000 cu. yds. gravel at Mamie, Ala.; specifications, etc., on file with Thos. H. Edwards, County Engr.

Grinders.—See Foundry Equipment.—Tilley-Reimann Iron Works.

Grinding, Mixing and Packing Machines.—Anti-Choleric Stock Remedy Corp., 427 Monticello Ave., Norfolk, Va.—Correspondence with manufacturers of grinding, mixing and packing machinery.

Heating.—Board of Public Instruction, F. A. Hathaway, Supt., Jacksonville, Fla.—Separate bids until Oct. 14 for plumbing and heating school building at Grape and Acosta Sts.

Hydrofluosilicic Acid.—Alden Speare's Sons Co., 140 6th St., Cambridge, Mass.—Large quantities of hydrofluosilicic acid and its sodium salt.

Ice Plant.—J. C. Talmage, Box 144, Anna Maria, Fla.—Data on establishment of small ice plant; also in catalogues and prices on machinery.

Iron, Steel, etc.—Hong-Kong Mercantile Co., K. W. Kotewall, Mgr., Hong-Kong, China.—To correspond regarding importations of steel and iron products (such as wire nails, round bars and galvanized wire), tinplates, pig lead, tablet and bar soap, window glass and textiles.

Knitting Machinery.—Ashley Hosliery Co., Walnut and Main Sts., Norfolk, Va.—Second-hand 200-needle knitting machine; also 220 needle machines.

Lathe (Engine).—Colonial Lumber Co., J. D. Wyrick, Mgr., Bearden, Tenn.—Prices on new or second-hand engine lathe.

Laundry Machinery.—D. E. Braswell, Tarboro, N. C.—Data on establishment of steam laundry and prices on machinery.

Levee Construction.—Directors Gibson Levee Dist., J. H. Snapp, Prest., Augusta, Ark.—Bids at office of Clerk, Courthouse, until Oct. 2 to build and repair Gibson levee north of Fitzhugh and west of Tupelo; 50,000 cu. yds. earth excavation; plans and specifications on file with J. H. Dale, Secy., and Major C. H. Purvis, Engr., Helena, Ark.

Locomotive and Cars.—F. & G. Eschauer, Calle de la Republica No. 14, San Luis Potosi, Mexico.—10 cars of 20,000 kilos capacity each and locomotive to suit.

Log Loaders.—L. F. Hobbs, P. O. Box 483, Norfolk, Va.—Two first-class second-hand American log loaders, model E.

Logging Equipment.—Southern Machinery & Equipment Co., 1114 People's National Bank Bldg., Lynchburg, Va.—Two 36-in. gauge railroad log loaders; for immediate delivery; state make, condition, location, price, etc.; also other logging equipment.

Machine Tools.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on following machine tools, schedule 171, delivery Portsmouth: Miller, drill borer; involute gear cutter equipment; heavy grinder; lathes (bench, engine and turret); profiling machine; milling machine; automatic screw machine; screw slotting machine; boring and turning mill; 2 drill presses; also schedule 169, forcing and straightening press, delivery Washington, and electric spot welder, schedule 170, delivery Pensacola.

Manufactures, etc.—Orazio Melardi, Messina, Italy.—To represent manufacturers of and shippers of corn; petroleum; maize; beans; peas; breadstuffs; hog lard in barrels; leathers for shoes; dried and salted fish; beer; coffee; shoes; shirting; men's and ladies' stuffs; to facilitate business, quote prices in francs or shillings, c. l. f. Messina, and adopt for measures and weights the decimal system; send samples with prices and conditions of sale and agency.

Mechanical Equipment (Postoffice and Courthouse).—Treasury Dept., Supervising Archt.'s Office, Washington, D. C.—To open bids Nov. 13 for installation mechanical equipment (except elevators and lighting fixtures) of U. S. courthouse and postoffice, Birmingham, Ala.; drawings and specifications from custodian at site or at Archt.'s office.

Metals.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on 1000 lbs. ingot aluminum, schedule 181, delivery Charleston; 5540 lbs. galvanized steel angles, 55,000 lbs. class B plate steel, 54,000 lbs. galvanized boiler plate steel, 4350 lbs. rivet steel, schedule 192, and 2300 lbs. bar naval brass, schedule 189, delivery Mare Island; 3000 lbs. ingot antimony, schedule 189, delivery Mare Island and Puget Sound; monel metal, 500 lbs. 1/2-in. half-and-half solder, and 500 lbs. wiping solder, schedule 189, delivery Puget Sound; 78,000 lbs. high tensile rivet steel, schedule 174, delivery Brooklyn and Mare Island.

Milling Machine.—See Shaper.—Wheel-er Company.

Milling Machine.—Matthew J. Smith, Union Terminal Bldg., Jacksonville, Fla.—Milling machine to turn up a 22-in. disc.

Mining Machinery.—See Asbestos Machinery.—D. G. Zeigler, Son & Co.

Meters (Disc).—See Pumping Engine, Pump, etc.—City of Alliance, Ohio.

Oil (Peanut) Machinery.—V. H. Sledge, M. E., Bay City, Tex.—Data and prices on machinery to manufacture oil from peanuts.

Overall Machinery.—C. W. Roberts, Secy., Chamber of Commerce, Gastonia, N. C.—Data on manufacture of overalls and prices on machinery.

Packing (Pork) Equipment.—E. L. Lenker, Fairfield, Fla.—Data and prices on pork-packing equipment.

Paints, Acids, Chemicals, etc.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on 3000 lbs. muriatic acid, schedule 187, delivery Puget Sound; 2,280,000 lbs. alcohol, 7,500,000 lbs. sodium nitrate and 8400 lbs. caustic soda, schedule 185, delivery Washington; 8200 lbs. black (drop, in oil), schedule 179, delivery Philadelphia; 25,000 lbs. basic sulphate white lead and 50,000 lbs. zinc dust, schedule 179, delivery Norfolk; 12,000 lbs. cold-water paint, schedule 179, delivery Boston.

Paper Box Machinery and Supplies.—Clendenin-Saunders Wheat Cereal Co., Greensboro, N. C.—Prices on paper box making supplies and equipment.

Paving.—John B. Yates, City Clerk, Pensacola, W. Va.—Bids until Oct. 20 to grade, curb and pave streets, alleys and avenues; profiles, plans, specifications and plats on file with City Clerk; consider all classes of brick and concrete.

Paving.—Dist. Commrs., Dist. Bldg., Washington, D. C.—Bids until Oct. 10 to grade and improve streets; proposal forms, specifications and information from Chief Clerk, Engr. Dept., Room 427, Dist. Bldg.

Paving.—Baltimore (Md.) Board of Awards, City Hall.—Bids until Oct. 4 to construct cement footways around city property in various portions of city; specifications

and proposal sheets on application to R. M. Cooksey, Highway Engr.

Paving.—City of Brooksville, Fla.—Will open bids Oct. 19 to construct 7140 sq. yds. asphaltic concrete paving, 5160 ft. concrete curb; Engr., Hiram McElroy, Tampa.

Paving.—City of De Land, Fla., Geo. T. Haynes, Clerk.—Bids until Oct. 1 to pave certain streets; 24,060 sq. yds. Dunn wire cut-lug paving brick, 17,464 lin. ft. granite or concrete curb, 5760 lin. ft. wooden curb, 1650 cu. yds. excavation, 1900 sq. yds. shell shoulders, 36 cu. yds. class B reinforced concrete, 1400 lbs. steel and 310 ft. 18, 15 and 12-in. pipe; plans and specifications on file with and obtainable from Clerk and J. B. McCrary Co., Engr., Third National Bank Bldg., Atlanta, Ga., for \$5. (Date of opening bids postponed from Sept. 1; lately noted.)

Paving.—Board of Improvement, John P. Kline, Chrmn., Texarkana, Ark.—Bids until Oct. 30 for grading, curbing, guttering, construction of storm sewers, etc., in Paving Improvement Dist. No. 20; bids received for laying of asphaltic concrete, asphaltic macadam, vertical fiber brick, Portland cement-concrete and gravel pavements; plans and specifications on file office of E. F. Petersen, Board Engr.; copies of instructions, specifications, etc., obtainable from Secy. or Engr. for \$1; plans and specifications obtainable from Paul Huckins, Secy., for \$25.

Paving.—Baltimore (Md.) Board of Awards, City Hall.—Bids until Oct. 4 to pave Guilford Ave. from University Parkway to Southway; contract No. 118; 1600 sq. yds. sheet asphalt and 2000 cu. yds. grading; specifications obtainable from Commrs. for Opening Streets, John H. Robinette, Prest.

Plumbing.—See Heating.—Board of Public Instruction, Jacksonville, Fla.

Printing Equipment.—Commrs. Dist. of Columbia, Washington, D. C.—Bids until Oct. 9 to furnish printing equipment for Dunbar High School Bldg., 1st and N Sts. N. W.; blank proposal forms, specifications and information from Chief Clerk, Engr. Dept., Room 427, Dist. Bldg.

Pumps.—Hackley Morrison, P. O. Box 120, Richmond, Va.—Two 10x6x10 outside center packed brass-fitted Worthington pumps.

Pumps.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on 2 motor-and-turret-driven centrifugal pumps, schedule 167, delivery Norfolk.

Pumping Engine, Pump, etc.—City of Alliance, Ohio.—To receive bids Oct. 6 for 6,000,000-gal. cross compound pumping engine and motor-driven triplex booster pump; also bids Oct. 5 for 1000 disc meters, sizes 1/2-in. to 1-in.; plans and specifications obtainable for \$10 from Chester & Fleming, Engrs., Pittsburgh, Pa.

Rails, etc.—Fargo Contracting Co., St. James Bldg., Jacksonville, Fla.—Price on 4000 lin. ft. track (25-lb. relaying rails), with splice joints and spikes; f. o. b. Mohawk, Okla.

Refrigerating Machinery.—Baltimore (Md.) Board of Awards, City Hall.—Bids until Oct. 4 to install sanitary stall and refrigerating machinery at Broadway Market, Canton Ave. and Broadway; drawings and specifications on file with J. J. Byrne, Bldg. Inspector.

Road Construction.—Marshall County Commrs., Marianna Road Dist., Holly Springs, Miss.—Bids until Oct. 5 to construct about 14 mi. sand-clay roads, with bridges and culverts; for specifications address Walter G. Kirkpatrick, Engr., 704 Farley Bldg., Birmingham, Ala. (Noted in Aug. as "Bids in Oct.")

Road Construction.—Wicomico County Commrs., Salisbury, Md.—Bids until Oct. 10 to construct 2 sections State Aid highway upon or along Jersey Rd., between Salisbury and Delmar, 2 mi.; bids to be made on blank forms furnished by State Roads Com., 601 Garrett Bldg., Baltimore; plans can be seen and forms of specification and contract obtained for \$1 from State Roads Com.; H. M. Clark, Roads Engr., Salisbury.

Road Construction.—Kountze County Commrs., W. W. Dies, County Judge, Kountze, Tex.—Bids to clear, grub and grade road 12 mi. long from Silsbee, Tex., to Tyler County line; bids to be submitted on each separate 2-mi. section; specifications and profiles on file with County Clerk, Kountze; bids opened Sept. 27; Myers & Noyes, Ch. Engrs.

Road Construction.—Davies County Commrs., J. W. Spurrier, County Engr., Owensboro, Ky.—Bids until Sept. 29 to construct 16 mi. road of stone, gravel or bitum-

nous surface; this is one of series of contracts to be let under \$900,000 bond issue; specifications on file.

Road Construction.—Chambers County Commrs., Lafayette, Ala.—Bids until Oct. 20 to grade, drain and surface with top soil part of State Trunk Rd. No. 13 from near Fairfax Cotton Mills to Lee County line; expenditure, \$5000; W. S. Keller, State Highway Engr., Montgomery, Ala.

Road Construction.—Bureau of Standards, Dept. of Commerce, Washington, D. C.—Bids to construct concrete roads and curbs on premises of Bureau; bids opened Sept. 25; drawings and specifications on application to Bureau.

Road Construction.—Kemper County Highway Commrs., Supvrs.' Dist. No. 5, De Kalb, Miss.—To let contract Oct. 11 to grade, rock and drain 30 mi. road; also for about 100 bridges—cement and concrete; Engrs., Snowden & Hauser, Jackson and Columbus, Miss.

Road Construction.—Kemper County Highway Com., Supvrs.' Dist. No. 1, De Kalb, Miss.—To let contract Oct. 11 to grade, rock and drain 30 mi. road; Snowden & Hauser, Engrs., Jackson and Columbus, Miss.

Road Construction.—Summers County, Talcott Dist., J. D. Pence, Pence Springs, W. Va., Dist. Committeeman.—Correspondence with contractors, view to letting contract for grading, draining and surfacing with water-bound macadam, tarvia macadam, blast furnace slag or concrete; \$65,000 available for road improvements.

Road Construction.—Howard County Commrs., M. J. Sullivan, Clerk, Ellicott City, Md.—Bids until Oct. 3 to construct 3.7 mi. road upon or along Vineyard and Rolling Rds.; bids to be made on blank forms, obtainable from State Roads Commission, 601 Garrett Bldg., Baltimore; plans can be seen and forms of specifications and contract obtained from State Roads Commission for \$1.

Road Construction.—Brooke County, C. A. Nichelberger, County Engr., Wellsburg, W. Va.—Bids until Oct. 20 to construct 10 5-10 mi. road; Road 9, Bethany pike, 6 8-10 mi.; Road 1, section 2, from Steubenville bridge to Holliday Cove, 3 1-10 mi.; Road 1, section 1, etc., 22d to 27th St., Wellsburg, to Mine No. 4 of West Virginia & Pittsburgh Coal Co.; plans and specifications at office of County Engr.; A. D. Williams, Ch. Road Engr., Library Bldg., Morgantown, W. Va.

Road Construction.—Christian County Road Commission, D. T. Cranor, Chrmn., Hopkinsville, Ky.—Bids until Oct. 3 to improve 3 State-aid roads; Sec. 7, Greenville Rd., 12 mi. resurfacing; Sec. 8, Julien Rd., 9 mi. resurfacing; Sec. 9, Gracey Rd., 9 mi. new macadam; bids received on each section separately, but one contract may be let for all sections; plans and specifications may be seen and proposal forms obtained from Chas. Folsom, Engr., County Bldg., Hopkinsville; also at Dept. of Public Roads, Frankfort, Ky.; L. J. Harris, Clerk County Court.

Road and Bridge Construction.—New Kent County Commrs., New Kent, Va.—Bids until Oct. 3 to construct sections of Williamsburg Rd.; also reinforced concrete bridge, 20-ft. span, known as "Trunk Bridge"; plans and specifications on file with County Clerk at New Kent and with State Highway Commission, G. P. Coleman, State Highway Commr., Richmond, Va.

Sawmill, etc.—Colonial Lumber Co., J. D. Wyrick, Mgr., Bearden, Tenn.—Prices on second-hand 6 or 7-ft. band sawmill and small scroll saw.

Saw (Novelty).—John G. Duncan Co., 308 W. Jackson Ave., Knoxville, Tenn.—Prices on novelty saw; dealers' prices.

Sewer Construction.—Board of Commissioners, Hernando Bldg., Lexington, Ky.—Bids until Oct. 4 to construct North side storm-water sewer, estimated to cost \$25,000; plans and specifications on file with W. H. McCorkle, Commr. of Public Works, from whom copies may be obtained; Jas. C. Rogers, Mayor.

Sewage-disposal Plant.—City of Sweetwater, Tex., W. H. Bartlett, Secy.—Bids until Oct. 4 to lay sewer outfall and a disposal plant; outfall, 18-in. sewer pipe, with manholes; disposal plant, consisting of Imhoff tank, sprinkling filters, liquid chlorine treatment, etc.; cost about \$30,000; plans and specifications on file office of John A. Focht, City Engr.

Shafting, etc.—Hackley Morrison, P. O. Box 120, Richmond, Va.—Three 20-ft. lengths 4 7-16 shafting, two 4 7-16 flanged couplings, six 4 7-16 set collars, eight 4 7-16 rigid pillow blocks.

Shaper, etc.—Wheeler Company, Railroad, Pa.—Second-hand 16 or 20-in. shaper, in first-class condition; milling machine, plain or universal, medium size, with attachments.

Sharpener (Drill).—Anderson County Construction Co., Lawrenceburg, Ky.—Leyner drill sharpener; in good condition.

Shear (Alligator).—Mr. Preble of Punxsutawney Iron & Steel Co., Punxsutawney, Pa.—Second-hand alligator, rotary, splitting or plate shear; any shear that will cut plate 3/4-in. thick; immediate shipment.

Shell Fill Construction.—Nueces County, Walter F. Timon, County Judge, Corpus Christi, Tex.—To open bids first week in Oct. to reconstruct shell fill; about 120,000 cu. yds. dredging, tarvated roadway—Corpus Christi Causeway.

Shovels (Revolving, Steam).—C. T. Handman, Builders' Exchange, Cincinnati, O.—Good used revolving steam shovel; suitable for quarry.

Spindle Shaper.—John C. Duncan Co., 38 W. Jackson Ave., Knoxville, Tenn.—Heavy single spindle shaper; second-hand, good condition; for immediate shipment; double spindle would answer; dealers' prices.

Steel Beams.—Hackle Morrison, P. O. Box 120, Richmond, Va.—270 8-in. steel I beams.

Steel Channels, Pig-iron, Pipe, Metals, Hardware, etc.—Panama Canal, Earl I. Brown, Gen. Purchasing Officer, Washington, D. C.—Bids to furnish steel channels, pig-iron, phosphor tin, locomotive tires, cast-iron pipe, lead pipe, sheet brass, bar copper, copper wire, nails, screws, cable thimbles, turnbuckles, plate planer, plate-bending rolls, electric motors, metallographic outfit, grinding machine, shovels, wrenches, saws, tongs, tinners' shears, taps, vises, galvanized rings, airbrake hose, inner tubes, fire brick, foundry clay, silica grit, silica sand, silica wash, coke, lime, pitch, soda ash, calcium chloride, graphite, acetone, alcohol, bicarbonate of soda, petroleum jelly, turpentine substitute, linseed oil, litharge, putty, varnish, white zinc, paints, lampblack, enamel, lumber, etc.; blanks and general information relating to this circular (No. 1083) may be obtained from this office or offices of assistant purchasing agents, 24 State St., New York; 614 Whitney-Central Bldg., New Orleans, and Fort Mason, San Francisco; also from U. S. Engr. offices in Seattle, Los Angeles, Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, Chicago, St. Louis, Detroit, Milwaukee, St. Paul, Chattanooga, Louisville, Mobile and Galveston; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill., and Commercial Club, Tacoma, Wash.

Steel Flume.—O. W. Clayton, Brevard, N. C.—Data and prices on steel flumes for timber development.

Syrup Refining Machinery.—B. E. Brownfield, care Brownfield Hardware Co., Opelika, Ala.—Data on establishment of plant to refine and blend syrups—cost, methods, prices on machinery, etc.

Tannery Supplies.—J. G. Ferguson, Ocala, Fla.—To correspond with manufacturers of tanners' supplies.

Textile Products.—See Iron, Steel, etc. Hong-Kong Mercantile Co.

Toys and Toy Novelties.—L. P. Dickie, Secy. Tampa Board of Trade, Tampa, Fla.—Addresses of manufacturers, dealers and jobbers in toys and toy novelties.

Transportation Equipment.—See Crushing and Screening (Slag) Plant.—Birmingham Slag Co.

Trucks (Drykiln).—Chas. A. McLean, 412 Citizens' Bank Bldg., Norfolk, Va.—100 drykiln trucks, each 6 ft. long, with 6-in. roller-bearing wheels.

Vacuum System.—White Furniture Co., Mebane, N. C.—Vacuum to care for condensation from drykiln, heating, etc.

Water Systems.—D. J. Gatchell, 3614 Park Place, Washington, D. C.—Literature on water systems for hotel at Colonial Beach, Va.

Water-wheels.—See Electrical Machinery.—A. A. Slagle.

Water-works.—South Park School Dist. of Jefferson County, J. E. Turner, Secy. (care of Prof. L. R. Lietzsch), Beaumont, Tex.—Bids until Sept. 28 to construct 7050 ft. water mains; separate proposals as follows: Item No. 1, iron pipe and special casting; Item No. 2, construction of water main; plans, specifications and bidders' forms on file with Secy. or may be obtained from A. E. Freck, Engr., Box 1975, Beaumont, for \$5.

Water-works (Filter Plant, etc.).—City of Trenton, Mo.—Bids Oct. 11 to con-

struct and install mechanical filter plant, present capacity 1,200,000 gals., 3 units; also bids on two 1000 G. P. M. centrifugal pumps, cast-iron pipe and one 60 K. V. A. generator, direct connected to unafflow engine; plans and specifications obtainable from E. E. Harper, Consit. Engr., 2404 E. 30th St., Kansas City, Mo.

Wire Rope.—C. T. Sowden, 202 St. Joseph St., Mobile, Ala.—1 mi. 3/4-in. and 1 mi. 1-in. good second-hand wire rope.

Windows (Hollow Metal).—Dept. of Interior, Bo Sweeney, Asst. Secy., Washington, D. C.—Bids until Oct. 10 to furnish

hollow-metal, double-hung windows for Pension Office Bldg.; copies of plans and specifications on application to Ch. Clerk of Dept.

Woodworking (Heading, Box) Machinery.—B. E. Brownfield, care Brownfield Hardware Co., Opelika, Ala.—Data on manufacture of boxes and wooden heads for nail kegs; also prices on machinery.

Woodworking (Flooring, etc.) Machinery.—E. L. Bruce Co., E. 17th St., Little Rock, Ark.—Correspondence with manufacturers of machinery and supplies for equipment of flooring plant.

RAILROAD CONSTRUCTION

RAILWAYS

Ark., Nashville.—Memphis, Dallas & Gulf R. R. Co. is considering a proposition that it build a line from Blingen, near Nashville, to Corinth, Ark., about 5 mi. W. P. Hart, Nashville, is Ch. Engr.

Fla., Dade City.—Board of Trade is working on a plan to secure construction of a railroad from Dade City to San Antonio, about 7 mi., to connect with the Atlantic Coast Line. Committee, C. A. Lock, P. C. Carter and Arthur L. Auvil.

Fla., Sebring.—Construction of a motor-operated railway is contemplated in this vicinity. G. M. Langston, Pres. South Florida Realty & Bonding Co., Inc., may give information.

Ky., Hyden.—Interstate Coal & Lumber Co. of Elkins, W. Va., is reported about to build 12-mi. narrow-gauge railroad on Middle Fork and Greasy creeks in this (Leslie) county to develop timber land recently acquired.

Md., Baltimore.—Engineers are surveying for a railroad to Hawkins Point, several miles below Baltimore, on the Patapsco River, presumably to build a branch from the Curtis Bay line of the Baltimore & Ohio R. R. R. N. Beglen, Ch. Engr. of the latter at Baltimore, may be able to give information.

Md., Hagerstown.—Baltimore & Ohio R. R. has completed and put in operation its 4-mi. extension from Hagerstown to Security.

Miss., Biloxi.—W. A. Reno, a member of the committee appointed by the Biloxi Vegetable & Fruit Growers' Assn. to obtain subscriptions of right of way for the proposed railroad between Biloxi and Ocean Springs, about 5 mi., says that the project has not yet been financed and no organization has been formed. Route proposed is via Back Bay, following Biloxi Bay beach as close as practicable.

Mo., Mexico.—Chicago, Burlington & Quincy R. R. and the Atchison, Topeka & Santa Fe Ry. are reported contemplating construction of a double-track connection from Mexico via Keytesville to Carrollton, Mo., 35 mi., for mutual advantage. It would afford the Burlington a much shorter route and would give the Santa Fe entrance to St. Louis. W. L. Breckenridge and C. F. W. Felt are Ch. Engrs., respectively, both at Chicago, Ill.

S. C., Alcolu.—The Alcolu R. R. has begun construction near Hamville on an extension towards Florence, 10 or 12 mi. distant. Jesse Ray is Supt. of Constr. R. J. Alderman is Pres.

S. C., Orangeburg.—Carolina Southern Ry. Co. is commissioned with \$30,000 capital stock (maximum \$1,000,000) to build a standard gauge road from Orangeburg to Estill, S. C., about 60 mi. Petitioners: J. Leroy Dukes of Orangeburg, E. N. Mittle of Bowman and W. C. Martin of Branchville, S. C. Electric or steam power can be used.

Tex., Asherton.—C. E. Hanan of St. Louis is reported interested in plans for the extension of the Asherton & Gulf R. R. west to Eagle Pass, about 50 mi., and southeast to the Gulf of Mexico, about 100 mi. Joel Dean, Asherton, is Supt. and Ch. Engr.

Tex., Fort Worth.—Houston & Texas Central R. R. is reported to have made plans for the construction of a belt line around Fort Worth to reach the stockyards and various industries and connecting with other roads. I. A. Cottingham, Houston, Tex., is Ch. Engr.

Tex., San Antonio.—San Antonio, Gonzales & Houston Interurban Co. is reported organized with Steven Holmes of Leesville, Tex., to build the proposed electric interurban railway from San Antonio to Houston via Gonzales, about 225 mi.

Tex., Sugarland.—Sugarland R. R. has completed and put in operation its extension from Otey to Anchor, Tex., about 5 mi.

Tex., Wichita Falls.—Wichita Valley Railway is reported relaying its road from Wichita Falls to Holliday with 70-pound rails. R. C. Gowdy is Ch. Engr. at Wichita Falls.

Va., Alexandria.—Contract has been awarded by the Southern Railway to John P. Pettyjohn & Co., Lynchburg, Va., for construction of modern engine terminal facilities at Alexandria, including roundhouse, trackage, etc. W. H. Wells is Ch. Engr. of Constr. at Washington, D. C.

Va., Petersburg.—Hopewell City Point Ry. Co. has begun construction of 2 1/2-mi. line to connect the two towns. Vaughan Construction Co. is contractor.

W. Va., Clay.—Hartland Colliery Co. will build immediately 5 1/2 mi. of standard-gauge railroad, which it is hoped to complete before Jan. 1. Keithley & Hord of Huntington, W. Va., contractors, are moving plant to the ground. The road will be extended about 16 1/2 mi. farther to develop additional coal land. M. McD. Price, Clay, W. Va., is Gen. Mgr.

W. Va., Fairmont.—Western Maryland Ry. has completed and put in operation Helen's Run line, about 6 1/2 mi.

W. Va., Man.—Chesapeake & Ohio Ry. has begun construction of its 13-mi. extension from Man to Gilbert, W. Va.

W. Va., Wheeling.—Pennsylvania Railroad is reported to have let contract to the Ferguson & Edmonson Co. of Pittsburgh to grade short line up Buffalo Creek.

STREET RAILWAYS

Md., Cumberland.—Cumberland & Westernport Electric Ry. Co. will, it is reported, revise its line between Moscow and Barton, having obtained right of way which will shorten the distance between the two points. B. W. Duncan, Cumberland, is Gen. Mgr.

Va., Staunton.—Blue Ridge Light & Power Co. of Staunton will improve and extend its street railway. W. E. Moore & Co., Engrs., Pittsburgh, Pa., will supervise construction.

INDUSTRIAL NEWS OF INTEREST

Logging Contractor Wanted.

A logging contractor is sought by R. W. Barnwell, 621 Candler Bldg., Atlanta, Ga., to log 200,000,000 feet of long-leaf pine at the rate of from 40,000,000 to 50,000,000 feet a year. Applicants need not apply unless able to give bond for the performance of contract.

Lead Burning Contract Awarded.

Contract has been secured by H. G. Klink, P. O. Box 572, Baltimore, for the burning of between 400 and 500 tons of chemical sheet lead on the new sulphuric acid plant for the United Zinc Corporation at Moundsville, West Virginia.

York Refrigerating Machinery.

Out of a total of eighty-six installations of York refrigerating and ice-making machinery and equipment in all parts of the United States from California to New England since August 19, the York Manufacturing Co. reports the following Southern concerns: W. E. Scott & Co., Weatherford, Tex.; Columbia Produce Co., Nashville, Tenn.; Pierce Oil Corporation, St. Louis, Mo.; F. H. Carpenter, Sour Lake, Tex.; A. J. Nye, Orlando, Fla.; German Hospital, Kansas City, Mo.; Securities Guaranty Co. of Greensboro, N. C., for the Co-operative Ice Co. at St. Petersburg, Fla.; St. Joseph

Hospital, Kansas City, Mo.; Coco-Cola Bottling Co., Memphis, Tenn.; City Grocery Co., Rogersville, Tenn.; University Supply Store, Sewanee, Tenn.; Hillsboro Hotel Co., Tampa, Fla.; H. H. Clausen Co., Augusta, Ga.; Department of Interior office building, Washington, D. C.; James Barry, Houston, Tex.; City Market, El Paso, Tex.; Jacksonville (Fla.) Cattle Co.; Lansing Department Store, Washington, D. C.; Oppenheimer & Sons, Augusta, Ga.; Gastonia (N. C.) Ice & Feed Co.; Gypsy Oil Co., Tulsa, Okla., and George A. Wise & Bros., Washington, D. C.

Patents Bifurcated Nethergarment.

A new method of fastening by buttons on a buttonholes, which provides a plurality of lateral adjustments for underwear, making a single garment adaptable for persons of different waist measurements, has been invented and patented by Charles Smallwood, Washington, N. C. The inventor writes that he would like to get in touch with garment manufacturers or others interested in his device.

New Brick Company.

The Shale Paving Brick & Fireproofing Co. has been organized in Winston-Salem, N. C., to sell the brick that is being manufactured at its yellow shale deposit of 70 acres near Pine Hall, N. C. For the present the capacity of the plant will be 40,000 brick per day. Paving and face brick and hollow tile will be manufactured. The officers of the new company are: C. M. Thomas, president; A. H. Wall, vice-president, and Joel R. Hill, secretary-treasurer, all of Winston-Salem.

Opens Southern Office.

To cover the territory embracing Georgia, Florida, Alabama, Virginia, North and South Carolina, the Rockwood Sprinkler Co. of Chicago, manufacturer of automatic sprinkler systems, has opened an office in Atlanta with L. C. Anderson, contracting engineer, in charge. The address of the Atlanta office is 502 Connally Bldg., and has just been recently opened. Among the recent contracts executed was the installation of a sprinkler system for the Southern Mirror Co. at High Point, N. C., and the Dothan Grocery Co. of Dothan, Ala.

Secures Large Contract.

James Stewart & Co., Inc., 30 Church St., New York, advises it has closed contract for the Whitney Glass Co.'s new works at Glassboro, N. J., which will consist of furnace hall, lehr-room, wire-room, machine shop, box shop, gas producer house, powerhouse, boiler-house, office building and reinforced concrete tanks for storage of glass sand. Bids will be invited on rolling shutters, roofing, sheet metal and miscellaneous iron. Consulting engineering work is handled by the DeVore-McGormley Company of Toledo.

Praise Thomas Grates.

Several letters recently received by the Thomas Grate Bar Co., Birmingham, Ala., commend very highly the efficiency of Thomas elliptic grate bars. P. H. O'Neill, superintendent of the Lincoln Cotton Mill Co., Evansville, Ind., in answer to an inquiry regarding the Thomas grate bar, says: "We like the Thomas grate because it increases the efficiency of the boiler and naturally saves coal, as there is no opening of doors to clean fires and no clinkers to break up and drag out." E. E. Giddens, chief engineer of the Jacksonville (Fla.) branch of the Southern Ice Co., writes: "I consider the Thomas grate bars the very best grate bars there is. We are using one set of the shaker type and we are saving about 300 pounds of coal every 24 hours and can operate the Thomas bars continuously without having to pull the clinker and ashes out of the fire doors." Another letter from W. R. Funk, general manager of the St. Petersburg Transportation Co. of Tampa, Fla., contains the following: "The Thomas elliptic grate bars installed by your company in our steamer Pokanoket are giving eminent satisfaction, and from an economy standpoint and fuel consumption are proving as represented to us prior to installation. As soon as the new boilers in our other two steamers are completed we will install Thomas grates."

[Continued on Page 77.]

THIRTY-SECOND ANNUAL REPORT OF THE SOUTHERN PACIFIC COMPANY

AND PROPRIETARY COMPANIES YEAR ENDED JUNE 30, 1916.

REPORT OF THE BOARD OF DIRECTORS.

New York, September 18, 1916.

To the Stockholders of the Southern Pacific Company:
Your Board of Directors submits this report of the operations of the Southern Pacific Company and of its Proprietary Companies for the fiscal year ended June 30, 1916.

PROPERTIES AND MILEAGE.

The transportation lines constituting the Southern Pacific System, June 30, 1916, were as follows:

	First Main Track.	Additional Main Track.	Sid- ings.	Fer- ries.	Water Lines.
A.—Mileage of lines belonging to or leased by Companies the capital stocks of which are principally owned by the Southern Pacific Company:					
(1)—Operated by the Southern Pacific Company under leases:					
Central Pacific Ry.	2,267.82	256.29	878.51	9.90	125
Oregon & California R. R.	1,101.10	5.81	248.98	.....	.....
Southern Pacific R. R.	3,489.80	208.29	1,525.32	3.00	.....
Southern Pacific Coast Ry.	106.69	20.46	49.93	3.00	.....
(2)—Operated by the owning Companies:					
Morgan's Louisiana & Texas R. R. & S. S. Co.	400.67	58.25	228.73	3.00	.....
Louisiana Western R. R.	297.74	.....	70.26	.....	.....
Lake Charles & Northern R. R.	71.52	.....	12.23	.....	.....
Texas & New Orleans R. R.	468.14	3.46	208.56	.....	.....
Galveston, Harrisburg & San Antonio Ry.	1,390.95	6.59	345.26	.....	.....
Houston, East & West Texas Ry.	190.94	.....	57.47	.....	.....
Houston & Shreveport R. R.	40.72	.....	7.28	.....	.....
Houston & Texas Central R. R.	894.63	1.65	260.21	.....	.....
Southern Pacific Terminal Company.	.....	.....	25.68	.....	.....
Arizona Eastern R. R.	377.74	.....	72.67	.....	.....
Southern Pacific Company.	.....	.....	.....	4.400	.....
B.—Mileage of lines belonging to Companies the capital stocks of which are principally owned by the Morgan's Louisiana & Texas R. R. & S. S. Co., but which are operated by the owning Companies:					
Iberia & Vermilion R. R.	21.44	.....	10.93	.....	.....
Direct Navigation Co.	.....	.....	.....	.....	65
Total	10,959.90	561.59	4,002.38	18.90	4,590
Less operated jointly by Proprietary Companies	43.41	9.97	20.31	.....	.....
Total miles of road operated June 30, 1916.	10,956.49	551.62	3,982.07	18.90	4,590
Total miles of road operated June 30, 1915.	10,587.40	551.59	3,838.05	18.90	4,873
Increase	369.09	.....	144.02	.....	.....
Decrease	.....	.....	.....	.....	283

In addition to the mileage above tabulated, the Southern Pacific Company solely controls through ownership of capital stock, 780.31 miles of electric lines, and 1,342.42 miles of the Southern Pacific R. R. Co. of Mexico; and jointly controls (through ownership of capital stock in equal proportions with the Atchison, Topeka & Santa Fe Ry. Co.) 506.77 miles of the Northwestern Pacific Railroad, and 62.93 miles of the Sunset Railway, an aggregate of 13,548.62 miles.

On July 1, 1915, the Southern Pacific Company purchased the properties of the following affiliated companies, which properties are operated in connection with the property of the Oregon & California R. R. Co.:

Coos Bay, Roseburg & Eastern R. R. & Nav. Co.	27.77 miles
Pacific Railway & Navigation Co.	91.16 "
Salem, Falls City & Western Ry. Co.	28.17 "
Corvallis & Eastern R. R. Co.	140.58 "
Portland, Eugene & Eastern Ry. Co.	107.76 "
Willamette Pacific R. R. Co.	73.39 "

Total miles of road purchased.	468.83 "
Less—Mileage of Willamette Pacific R. R. Co. not in operation July 1, 1915.	67.02 "

Miles of road in operation July 1, 1915.

On July 1, 1915, the Lake Charles & Northern R. R. Co., which operates 70.50 miles of road, and which had not before been dealt with as a Proprietary Company, was taken into the system, and its assets and liabilities and the results of its operations are included in the exhibits of Proprietary Companies in this report.

INCOME ACCOUNT.

	This Year.	Last Year.	+ Increase.	Per Cent.
Average miles of road operated:				
Lines East of El Paso.	3,636.14	3,534.12	+102.02	2.89
Lines West of El Paso.	7,319.83	7,020.12	+299.71	4.27
	10,955.97	10,554.24	+401.73	3.81
Operating Income.				
Railway operating revenues.	\$152,694,228 19	\$129,805,675 09	+ \$22,888,553 10	17.58
Railway operating expenses.	97,443,658 23	87,753,842 31	+ 9,689,815 92	11.04
Net revenue from railway operations.	\$55,250,569 96	\$42,111,832 78	+ \$13,138,737 18	31.20
Railway tax accruals.	\$7,023,325 97	\$6,371,272 84	+ \$652,053 13	10.23
Uncollectible railway revenues.	37,272 95	50,946 14	—13,673 19	26.84
Total operating income.	\$48,189,971 04	\$35,689,613 80	+ \$12,500,357 24	35.05
Non-operating Income.				
Rent from locomotives.	\$54,945 04	\$72,612 74	—\$17,667 70	24.33
Rent from passenger-train cars.	324,624 94	282,448 41	+ 42,176 53	14.93
Rent from floating equipment.	50,347 10	80,759 03	—30,411 93	37.66
Rent from work equipment.	42,574 67	69,555 19	—26,981 12	38.79
Joint facility rent income.	296,069 21	473,475 01	—177,405 80	43.81
Income from lease of road.	43,085 38	94,996 46	—51,911 08	54.65
Miscellaneous rent income.	549,774 17	444,514 74	+ 105,259 43	23.68
Miscellaneous non-operating physical property.	276,310 31	298,358 19	—22,047 88	7.39
Dividend income.	4,418,154 07	4,478,250 00	—60,095 93	1.34
Income from funded securities—Bonds and notes—Affiliated and other companies.	3,739,634 93	3,756,061 84	+ 43,573 09	1.16
Income from unfunded securities and accounts.	1,015,819 55	2,157,327 59	—1,141,507 95	52.91
Income from sinking and other reserve funds.	584,829 75	494,136 41	+ 90,693 34	18.35
Miscellaneous income.	653,787 86	678,550 66	—24,762 80	3.65
Miscellaneous income.	123,078 85	577,332 14	—454,253 29	78.68
Total non-operating income.	\$12,203,035 23	\$13,958,378 22	—\$1,755,343 09	12.58
Gross income.	\$60,393,006 27	\$49,647,992 12	+ \$10,745,014 15	21.64
Deductions from Gross Income.				
Hire of freight cars—Debit balance.	\$405,599 93	\$120,850 99	+ \$284,748 94	235.62
Rent for locomotives.	24,399 00	24,771 52	—372 52	1.50
Rent for passenger-train cars.	249,240 14	172,921 37	+ 76,318 77	44.13
Rent for floating equipment.	255,883 16	3,613 92	+ 252,269 24	.....
Rent for work equipment.	6,583 89	6,960 69	—376 80	5.41
Joint facility rents.	361,527 34	558,339 75	+ 196,812 41	54.45
Rent for leased roads.	736,465 40	717,904 21	+ 18,561 19	2.59
Miscellaneous rents.	609,373 22	617,940 60	—8,567 38	1.38
Miscellaneous tax accruals.	1,280,390 95	965,287 10	+ 315,103 85	32.65
Interest on funded debt—Bonds and notes.	24,663,251 94	25,105,848 89	—442,596 95	1.76
Interest on funded debt—Non-negotiable debt to Affiliated Companies.	267,290 07	275,536 69	—8,246 62	2.99
Interest on unfunded debt.	31,518 20	81,037 38	—49,519 18	61.11
Amortization of discount on funded debt.	225,343 53	237,540 56	—12,197 03	5.13
Maintenance of investment organization.	142,410 77	125,981 31	+ 16,429 46	13.04
Miscellaneous income charges.	188,474 82	232,537 67	—44,062 85	18.95
Total deductions from gross income.	\$29,597,752 36	\$29,077,672 65	+ \$520,079 71	1.48
Net income.	\$30,885,253 91	\$20,570,319 47	+ \$10,314,934 44	50.14

Disposition of Net Income.

Income applied to sinking and other reserve funds.	\$934,837 82	\$939,724 57	—\$4,886 75	.....
Income balance transferred to credit of Profit and Loss.	\$29,950,416 09	\$19,630,594 90	+ \$10,319,821 19	52.37
Per cent. on outstanding capital stock of Southern Pacific Company.	10.58	7.20	+ 3.38	52.59

In the foregoing table there has been excluded from both sides of the account (Income from Funded Securities and Interest on Funded Debt) for this year and last the interest paid and received on bonds of Proprietary Companies owned by Southern Pacific Company and its Proprietary Companies.

The Interstate Commerce Commission during the year issued a ruling to the effect that interest on investment advances to affiliated companies, which we have heretofore dealt with as Income from Unfunded Securities and Accounts, should be classified as Income from Funded Securities. In the figures for last year in the foregoing statement the sum of \$2,157,327.59, which was included in the \$2,651,463.91 reported last year as Income from Unfunded Securities and Accounts, is shown as Income from Funded Securities—Investment Advances—Affiliated Companies.

The details of Railway Operating Revenues and Railway Operating Expenses are fully dealt with under Transportation Operations.

The payments during the year to other companies for rent of equipment exceed the income from rent of equipment by \$469,214.97, an increase as compared with last year of \$645,471.55, of which \$392,739.08 is on account of rolling stock and \$252,681.17 is on account of floating equipment.

The decrease of \$207,465.80 in Joint Facility Rent Income is the result, principally, of charging against the said account this year the estimated amount of depreciation on certain terminal facilities included in said account in previous years, in order to provide a reserve for the replacement of such facilities.

The decrease of \$51,911.08 in Income from Lease of Road is the result, principally, of the termination of the lease to the Butte County Railroad of the branch line from Barber to Stirling City.

The principal cause of the increase in Miscellaneous Rent Income was the collection during the current year of \$85,278.55 of rentals which accrued prior to July 1, 1915.

The decrease in Miscellaneous Nonoperating Physical Property is due, principally, to a decrease in the interest on notes received in payment for lands covered by Central Pacific Railway Company Three and One-Half Per Cent. Mortgage, resulting from a decrease in the principal of such notes.

The decrease in income from Funded Securities—Investment Advances—Affiliated Companies is the result, principally, of including in the said account last year interest accruing prior to July 1, 1914, on construction advances to affiliated companies; and interest accruing last year on construction advances the principal of which was repaid last year.

The increase in Income from Unfunded Securities and Accounts is the result of including in the said account this year, in accordance with a ruling of the Interstate Commerce Commission, interest on the Companies' own funds used for construction, which was last year included in Miscellaneous Income; and of a decrease in the amount of interest received on bank balances, due to the application of current funds to the purchase of bonds issued under Central Pacific Railway Company Four Per Cent. Thirty-Five Year European Loan of 1911.

The decrease in Miscellaneous Income is the result of taking into last year's income the net receipts from the operations of the steamships Persia and Nile from July 1, 1915, to June 30, 1915; and to the inclusion in the said account last year of interest on the Companies' own funds used for construction, which is this year included in Income from Unfunded Securities and Accounts as explained in the preceding paragraph.

The increase in Miscellaneous Tax Accruals is the result of the assessment by the Government of additional income tax, aggregating \$25,179.33, covering the twelve months ended December 31, 1913, and the six months ended June 30, 1914. This tax was paid under protest, and suit has been brought for its recovery.

The decrease in Interest on Funded Debt—Bonds and Notes—is the result, principally, of the acquisition by the Southern Pacific Company during the year of approximately \$21,925,000, par value, of bonds issued under Central Pacific Railway Company Four Per Cent. Thirty-Five Year European Loan of 1911, the interest on which, amounting to \$443,129.82, has been excluded, in the foregoing statement, both from Interest on Funded Debt and from Income from Funded Securities.

The amounts reported against Maintenance of Investment Organization represent expenses of the Southern Pacific Company for other than railway operations and the expenses of keeping up the corporate organizations of the Proprietary Companies, the properties of which are operated by the Southern Pacific Company under leases.

On June 30, 1916, the principal of advances to the Southern Pacific Railroad Company of Mexico amounted to \$40,048,560.57. Interest accruing on these advances has not been taken into the income of the Southern Pacific Company.

CAPITAL STOCK.

The capital stock of the Southern Pacific Company outstanding at the beginning of the year amounted to \$272,674,405 64.

Common stock issued in exchange for a like amount of Five Per Cent. Twenty-Year Convertible Gold Bonds surrendered and cancelled.

Amount of Southern Pacific Company stock outstanding June 30, 1916.

Capital stocks of Proprietary Companies outstanding as shown by last year's report, viz.:

Preferred stock.

Common stock.

Add:

Capital stock of the Lake Charles & Northern R. R. Co., which has not heretofore been dealt with as a "Proprietary Company".

Adjustment of difference between amount of Galveston, Harrisburg & San Antonio Ry. Co. capital stock actually outstanding and the amount heretofore reported.

Deduct:

Capital stock of the Corvallis & Eastern Railroad Company, which Company was dissolved following the sale of its property, on July 1, 1915, to the Southern Pacific Company.

Total stocks of Proprietary Companies outstanding June 30, 1916.

Stocks of Proprietary Companies outstanding June 30, 1916, were held as follows:

Owned by Southern Pacific Company.

Owned by Morgan's Louisiana & Texas Railroad & Steamship Company.

In the hands of the Public.

ASSETS AND LIABILITIES.

The value of the granted lands belonging to the Central Pacific Railway Company and to the Oregon & California Railroad Company remaining unsold at the close of the year is not included in the following statement of the said companies. All transactions during the year in respect to said lands are, however, shown in table No. 22.

The assets and liabilities of the Southern Pacific Company and of its Proprietary Companies, combined, on June 30, 1916, and the increases and decreases during the year, excluding the offsetting accounts between the Companies, summarized, were as follows:

	Total June 30, 1916.	Increase.	Decrease.
Investments.			
Investment in road and equipment.	\$939,971,725 25	\$31,259,481 79	.....
Sinking funds.	12,599,816 58	638,013 03	.....
Deposits in lieu of mortgaged property sold.	18,702 26	2,704 66	.....
Improvements on leased railway property.	1,372,067 77	.....	\$53,857 86
Miscellaneous physical property.	17,444,677 25	289,526 65	.....
Investments in affiliated companies:			
Stocks and bonds.	\$435,301,609 22	4,561,850 75	.....
Notes and advances.	91,032,155 01	.....	20,143,096 31
Other investments.	7,182,457 30	.....	724,850 00
Stocks and bonds.	7,325,750 52	687,185 47	.....
Notes, advances, and miscellaneous.	.....	.....	.....
	\$1,512,448,961 16	\$16,517,028 18	.....
Current and Deferred Assets.			
Cash and demand loans and deposits.	\$18,528,302 50	\$2,220,373 95	.....
Special deposits.	92,509 95	.....	\$448,570 15
Other cash accounts.	12,781,242 38	1,551,613 15	.....
Material and supplies.	16,609,507 87	.....	2,250,371 53
Deferred assets.	6,344,044 78	132,523 78	.....
	\$54,255,696 97	\$1,905,569 20	.....

Unadjusted Debits.			
Discount on capital stock.....	\$3,678,000 00		
Discount on funded debt.....	3,922,233 11		\$390,778 27
Other unadjusted debits.....	4,185,965 44		354,842 22
	\$11,786,198 55		\$655,620 49
Total assets.....	\$1,578,601,456 68	\$17,466,976 89	
Stock.			
Capital stock of Southern Pacific Company.....	\$272,677,965 64	\$3,590 00	
Capital stock of Proprietary Companies.....	\$243,885,600 00		\$1,314,972 00
	\$616,563,565 64		\$1,311,472 00
Long Term Debt.			
Funded debt of Southern Pacific Company.....	\$204,855,110 00		\$1,240,800 00
Funded debt of Proprietary Companies.....	\$454,040,512 13		2,948,744 31
	\$658,895,622 13		\$4,289,544 31
Non-negotiable debt to affiliated companies.....	\$7,346,817 56	\$1,262,867 64	
	\$666,242,439 69		\$3,026,676 67
Current and Deferred Liabilities.			
Audited accounts and wages payable.....	\$8,557,492 53	\$884,701 46	
Interest and dividends matured unpaid.....	8,803,660 66	340,128 42	
Unmatured dividends declared.....	4,080,168 58	52 50	
Unmatured interest accrued.....	5,452,044 00		\$20,731 07
Other cash accounts.....	3,180,810 73	532,800 07	
Deferred liabilities.....	244,127 33		151,377 64
	\$30,417,703 83	\$1,565,573 74	
Unadjusted Credits.			
Accrued depreciation.....	\$36,394,402 85	\$80,175 14	
Other unadjusted credits.....	136,269,774 64	4,681,546 19	
	\$73,264,177 49	\$5,502,121 33	
Total liabilities.....	\$1,286,167,826 65	\$2,729,546 40	
Corporate Surplus.			
Appropriated surplus.....	\$32,355,136 52	\$1,710,694 32	
Profit and loss.....	159,778,493 51	13,026,796 17	
Total corporate surplus.....	\$192,133,630 03	\$14,737,430 49	
Total.....	\$1,578,601,456 68	\$17,466,976 89	

*The outstanding capital stock and funded debt include capital stock and funded debt of Proprietary Companies of the par value of \$343,802,400 and \$100,561,112.08, respectively, a total of \$444,363,512.08, which securities are owned by the Southern Pacific Company or by Proprietary Companies or are held in sinking funds of Proprietary Companies. The cost of these securities is included in the investments shown above. Of the said amount, stocks of the par value of \$249,633,161, which stand charged on the books at \$232,332,667.41, are pledged against the issue of Southern Pacific Company stock and bonds.

†Represents, principally, interest on construction advances which have not been repaid. Includes \$2,115,000 bonds of the Corvallis & Eastern R. R. Co., assumed by Southern Pacific Company as hereinbefore explained.

TRANSPORTATION OPERATIONS.

SOUTHERN PACIFIC COMPANY AND PROPRIETARY COMPANIES COMBINED.

	This year.	Last year.	Increase.	Decrease.	Per cent.
Average miles of road operated.....	10,955.97	10,554.24	401.73		3.81
Railway Operating Revenues.					
Freight.....	\$98,567,886 39	\$80,020,751 28	\$18,547,135 01		23.18
Passenger.....	40,338,316 29	36,864,997 50	3,473,318 79		9.42
Mail and express.....	6,156,770 29	5,922,171 25	234,599 04		3.96
All other transportation.....	3,031,345 67	3,055,134 36		\$23,788 69	.78
Incidental.....	4,550,621 97	3,941,910 42	608,711 55		15.44
Joint facility—Credit.....	70,983 35	76,942 58		5,958 65	7.74
Joint facility—Debit.....	21,636 33	16,252 40		5,463 95	33.66
Total.....	\$152,694,228 19	\$129,865,675 09	\$22,828,553 10		17.58
Railway Operating Expenses.					
Maintenance of way and structures.....	\$18,367,137 29	\$15,356,355 77	\$3,010,781 52		19.61
Maintenance of equipment.....	21,866,636 02	19,815,973 36	2,050,662 66		10.35
Total maintenance.....	\$40,233,773 31	\$35,172,329 13	\$5,061,444 18		14.39
Traffic.....	\$3,131,404 18	\$2,915,089 84	\$216,314 34		7.42
Transportation.....	48,027,904 17	44,006,753 11	4,021,151 06		9.14
Miscellaneous operations.....	2,438,348 43	2,031,856 61	406,491 82		20.01
General.....	3,913,399 45	3,955,927 24		\$41,627 79	1.05
Transportation for investment—Credit.....	301,171 31	327,133 62		25,962 31	7.94
Total.....	\$97,443,658 23	\$87,753,842 31	\$9,689,815 92		11.04
Net revenue from railway operations.....	\$55,250,569 96	\$42,111,832 78	\$13,138,737 18		31.20
Railway tax accruals.....	\$7,023,325 97	\$6,371,272 84	\$652,053 13		10.23
Uncollectible railway revenues.....	37,272 95	50,946 14		\$13,673 19	26.84
Total operating income.....	\$48,189,971 04	\$35,689,613 80	\$12,500,357 24		35.03
Freight Traffic.					
Tons—revenue freight—total.....	37,322,383	31,857,039	5,465,344		17.16
Ton miles—revenue freight—total.....	9,211,615,334	6,637,345,295	2,574,270,039		38.78
Average ton miles per train mile—all freight.....	526.30	463.71	62.59		13.50
Average loaded freight car miles per train mile.....	22.90	22.32	.57		3.00
Average ton miles per loaded freight car mile—all freight.....	22.89	20.78	2.11		10.15
Percentage of loaded freight car miles to total.....	71.76	69.84	1.92		2.75
Average freight revenue per train mile.....	\$4.52	\$4.39	\$0.13		2.96
Average revenue per ton mile of freight—revenue freight.....	.977 cents.	1.099 cents.		.122 cents.	11.10
Average miles hauled—revenue freight.....	246.81 miles.	208.35 miles.	38.46 miles.		18.46
Passenger Traffic.					
Passengers carried—revenue—including ferry suburban.....	45,873,419	41,708,096	4,165,323		9.99
Passenger miles—revenue—including ferry suburban.....	1,914,189,495	1,662,556,191	251,633,304		15.14
Average passenger service train revenue per train mile.....	\$1.46	\$1.51		\$0.05	3.31
Average revenue per passenger mile.....	2.069 cents.	2.173 cents.		.104 cents.	4.79
Average miles carried—revenue passengers—including ferry suburban.....	41.73 miles.	39.86 miles.	1.87 miles.		4.69

The gross earnings during the year were \$152,694,228.19, which are the largest earnings in the history of the company. This showing surpasses the previous high record of 1913 by \$9,919,523.12, and is an increase over last year of \$22,828,553.10.

There has been no abatement of automobile competition for local passenger travel, but the losses sustained in that direction have been more than counterbalanced by the extraordinary travel which was stimulated by the California Expositions during the first five months of the fiscal year, by the movement of troops between points on the Mexican border, and by a general improvement in agricultural and commercial conditions along your company's lines. The earnings accruing under a new and more favorable contract with the Pullman Company, and the revenue derived from dining cars, hotels and restaurants were substantially increased by the Exposition travel. The aggregate increase in gross earnings accruing from passenger fares and from Pullman, dining car, hotel and restaurant business was \$1,804,854.65, equivalent to 12.32 per cent.

The interruption of steamship service through the Panama Canal since September 18, 1915, has minimized sea competition, and has restored to your company's lines the freight which had been diverted from them by the frequent steamship service through the Panama Canal during the previous year and by the low rates then prevailing. Nearly all the steamers which had operated through the Canal found more profitable employment in consequence of the increased demand for steamship tonnage owing to the European War, and they have not been restored to regular service between Atlantic and Pacific ports since the reopening of the Canal. Upon the return of normal conditions, however, it may safely be assumed that the intense competition of the Canal steamship lines will be encountered again.

Mineral Products contributed an increase of \$5,082,812 in gross earnings, resulting from the unusual demand for copper created by the European War, and the consequent increased tonnage of ores and bullion from Arizona, Mexico, New Mexico, California and Nevada, and by a large movement of fuel consumed in the operation of the mines and smelters.

Agricultural Products brought an increase of \$2,319,641 in gross earnings, chiefly received from shipments of barley, rice, beans, dried fruit and other commodities, which shipments were restored to your company's line after the discontinuance of service through the Panama Canal.

Forest Products yielded an increase in gross earnings of \$2,829,874, the lumber industry having benefited both by the enlarged mining operations and by a general revival of business.

Manufactured Products have produced an increase in gross earnings of \$5,801,975, which has been chiefly received from shipments of automobiles and of such commodities as canned goods, iron and steel articles and sugar, which shipments have been secured by your company's lines during the interruption of steamship service through the Canal.

General Merchandise and Miscellaneous Traffic enjoyed a recovery, which is largely attributable to the relief of the industries of the United States from the competition of foreign countries during the prosecution of the European War.

Of the total increase in gross earnings, \$56,129.60 accrued from Oregon lines which were not operated as a part of the system prior to this year.

The increase of \$22,828,553.10, or 17.58 per cent., in Railway Operating Revenues was earned with a decrease of 11.10 per cent. in the average revenue per ton mile of revenue freight, a decrease of 4.79 per cent. in the average revenue per passenger mile, and an increase of \$9,689,815.92, or 11.04 per cent., in Operating Expenses. After taking into account Railway Tax Accruals, which increased \$652,053.13, or 10.23 per cent., and Uncollectible Railway Revenues, total Operating Income increased \$12,500,357.24, or 35.03 per cent.

Of the total increase in Railway Operating Expenses, \$5,061,444.18, or 14.39 per cent., is allocated to maintenance, and \$4,628,571.74, or 8.80 per cent., to transportation and other expenses. The Company's standard of upkeep of its properties has been maintained, and the condition of the roadway has been substantially improved by heavy renewals of rail with 30-pound sections. The percentage of equipment in repair tracks is normal, although the mileage run during the year shows a large increase. At the close of the year 15 per cent. fewer locomotives and 50 per cent. fewer freight cars awaited repairs than on the corresponding date last year.

Improvements in operating efficiency are shown in average car and train loads, in locomotive fuel consumption and in the movement of freight cars.

Tons of freight per loaded car increased 2.11 tons to 22.89 tons, or 10.15 per cent. The average of 526.30 tons of freight per train is the highest on record, being an increase over last year of 62.59 tons, or 13.59 per cent. This increase in train load effected a saving of 2,665,008 freight train miles.

The greater efficiency in the use of locomotive fuel, shown in last year's operations, not only has been maintained, but has been increased. 5.16 gross ton miles were moved per pound of fuel in passenger service, an increase of 2.18 per cent., and 5.93 gross ton miles in freight service, an increase of 2.42 per cent. The money value of this gain is \$217,206.08, compared with 1915: \$740,395.92, compared with 1914, and \$1,515,645.12, compared with 1913.

The average miles per freight car per day was 34.96, compared with 27.65 last year, a gain of 26.44 per cent. The percentage of empty freight-car mileage decreased from 36.16 per cent. to 28.24 per cent.

Efforts to reduce payments for loss and damage to freight and to increase safety of operation have been unmitting. A reduction in payments for loss and damage to freight of \$336,594.87, or 32.01 per cent., was effected, although an increase of 38.78 per cent. in revenue ton mileage was handled. These payments absorbed 1.442 per cent. of freight revenue in 1915 and only 0.736 per cent. in 1916.

If the demands, backed up with threats of a general strike, of the federated organizations of engineers, firemen, conductors and brakemen for over 25 per cent. increase in wages, now under discussion with their committees, are conceded, operating expenses of your Company's lines will be increased by about \$2,500,000 per annum, which will wipe out these substantial economies achieved by unmitting and strenuous work throughout the year.

In order to maintain the Company's credit, and to provide for the natural growth and development of its lines, such threatened increases of expense can be met in but one of two ways—by an increase of revenue or by a reduction of expenses in other directions. Embarrassed on the one side by numerous ill-considered Federal and State laws, which largely and unnecessarily increase the cost of operation, and on the other by large increases in prices of supplies, your officers have little opportunity left to effect a material reduction in operating costs.

Comparative prices paid during the year and in 1913 and 1914 for some of the principal items of materials and supplies show increases as follows:

Pacific Type Passenger Locomotives.....	30 per cent.
10,000-gallon Locomotive Tenders.....	48 " "
12,500-gallon Tank Cars.....	28 " "
Plate Girder Bridges.....	97 " "
Roller Beams.....	97 " "
Rail Iron.....	143 " "
Journal Bearings.....	99 " "
Rivets.....	134 " "
Barbed Wire.....	78 " "
Tie Plates.....	91 " "

As little or no more can be accomplished in the direction of reducing costs, efforts will have to be concentrated on raising revenues, and unless the present volume of traffic can be maintained or increased we shall have to appeal for relief to the same public whose tolerance or tacit consent is responsible for the hardships we are enduring.

The following suggestion, which appeared in the report for 1914, with slight change, is considered timely:

"Your Board repeats the suggestion that you take an active part in repelling the attacks of demagogues on your property. Unfair treatment of railroads is due in great part to the belief of politicians that only financial magnates suffer therefrom. The surest remedy for the evil is for railroad investors to give unmistakable evidence of their numbers and of their resentment of unfair legislation or regulation. You now number over 33,000, and with the stockholders of other railroads and with investors in their securities you form a body of a million or more voters, whose protests, backed up by ballots, can lawfully exert sufficient force to compel fair treatment by your servants in Congress, in Legislatures and on commissions. The common interests of railroad shareholders and of investors in every community, no matter how small, should cause them to actively participate in every election and to perform faithfully all other duties of citizenship, in order to secure proper representatives and protection for their interests."

GENERAL.

Dividends on the capital stock of your Company were declared during the year, payable as follows:

1/2 per cent. paid January 2, 1916.....	\$1,090,131 86
1/2 per cent. paid April 1, 1916.....	4,090,162 94
1/2 per cent. paid July 1, 1916.....	4,090,168 58
1/2 per cent. payable October 2, 1916.....	4,090,168 58
Total.....	\$16,360,631 96

The Southern Pacific Railroad Company of Mexico continued to suffer during the year from revolutionary disturbances. The cost of property destroyed as a result of these disturbances, from the beginning of the Madero Revolution, in 1910, to June 29, 1916, is estimated at 5,029,552 pesos, equivalent to \$2,519,276. On account of these losses claims amounting to 287,353 pesos were filed with the Madero Government and approved, but have not yet been paid. No further claims for property losses have been filed, owing to unsettled conditions. In addition to the above, the Company has claims for freight and passenger services performed, for rental of road and equipment, and for material furnished to or confiscated by the various military authorities, amounting to 9,284,000 pesos. Bills for this amount (less \$31,000 pesos received on account) and bills for the property losses mentioned above will be filed as soon as conditions permit. During the year only such maintenance work has been done as was absolutely necessary to render it possible to operate trains over those portions of the line which were from time to time open for traffic.

In addition to the completed lines of railway reported under Properties and Mileage, and the still incomplete line of the Southern Pacific Railroad Company of Mexico, construction is progressing on the lines of the following companies, viz.:

	Length of Projected Line.	Track Completed.	Grading Completed.	Grading Progressing.
Colusa & Hamilton Railroad:				
Hamilton to Harrington, Cal.....	61.23	46.66	12.91	2.56
Southern Pacific Company:				
Eugene to Marshfield, Ore.....	120.59			
Less placed in operation.....	6.37			
	114.13	113.81		.32

Under the pension system put into effect on January 1, 1905, 822 employees are carried on the pension rolls of the rail and water lines. The payment to them for the year amounted to \$39,553.30.

In December, 1915, your company took advantage of an opportunity to sell its stock in the Pacific Mail Steamship Company instead of waiting for the liquidation of the Company, which was contemplated at that time.

The Board announces with sorrow the death, on May 1, 1916, of Mr. Charles W. Harkness, who served as a Director and as a member of the Executive Committee from April 9, 1913, to the time of his death.

Mr. F. D. Underwood was elected a Director on November 11, 1915, to fill the vacancy caused by the resignation of Mr. C. N. Bliss; Mr. W. B. Scott was elected a Director on April 5, 1916, to fill the vacancy caused by the death of General Thomas H. Hubbard, and Mr. Edward S. Harkness was elected a Director and a member of the Executive Committee on June 8, 1916, to fill the vacancies caused by the death of Mr. Charles W. Harkness.

The Board is pleased to express to the officers and employees of the Company its appreciation of their loyal and efficient service, the results of which are evidenced in the foregoing statements showing financial and other operations.

By order of the Board of Directors.

JULIUS KRUTTSCHNITT, Chairman of the Executive Committee.

Merchants - Mechanics First National Bank

BALTIMORE

CAPITAL, SURPLUS AND UNDIVIDED PROFITS, \$2,500,000
2,189,000
\$4,689,000

Total Resources Over \$35,000,000

The Largest Financial Institution in the South

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HENRY B. WILCOX, Vice-President
JOHN B. H. DUNN, Cashier

CHARLES HANN, Asst. Cashier
J. CLEVELAND WANDS, Asst. Cashier
C. BRADLEY HAYS, Asst. Cashier
SAM L. W. TSCHUDL, Asst. Cashier
CLIFTON K. WELLS, Asst. Cashier

Accounts of Corporations and Firms Are Respectfully Solicited

The National Exchange Bank OF BALTIMORE, MD.

Hopkins Place, German and Liberty Sts.
Capital \$1,500,000.
March 30, 1915, Surplus and Profits, \$850,000.00.

OFFICERS.

WALDO NEWCOMER, President.
SUMMERFIELD BALDWIN, Vice-Pres.
R. VINTON LANSDALE, Cashier.
C. G. MORGAN, Asst. Cashier.
Accounts of Mercantile Firms, Corporations, Banks, Bankers and Individuals Invited.

Maryland Trust Company

BALTIMORE

Capital \$1,000,000

TRANSACTS A GENERAL TRUST AND BANKING BUSINESS

Correspondence and interviews invited

The First National Bank OF KEY WEST, FLA.

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Surplus and Undivided Profits . . 40,000
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RICHMOND, VIRGINIA

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We purchase SCHOOL, COUNTY and MUNICIPAL BONDS. Southern Municipal Bonds a Specialty.

Write us if you have bonds for sale.

FINANCIAL NEWS

The MANUFACTURERS RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

FINANCIAL CORPORATIONS

Ala., Ensley.—Bank of Ensley is to be incorporated with \$100,000 capital. Erskine Ramsay, Pres.; G. B. McCormack, V.-P.; Robert E. Chadwick, V.-P. and Cash., and D. P. Knapp, Cash.

D. C., Washington.—Security Brokerage Co., capital \$25,000, is inceptd. Main office will be in the Colorado Bldg. Trustees: James W. Paul of Pittsburgh, Pa.; Frank E. McCallip and Powhatan Hall of Washington.

Fla., Apalachicola.—Florida Guaranty Co., capital \$500, gives notice of incorporation. T. M. B. Tucker, Pres.; Ruby Valentine, V.-P.; W. J. Valentine, Secy.-Treas.

Ga., Atlanta.—Atlanta Mutual Insurance Co., capital \$25,000, is inceptd by A. F. Herndon, T. K. Gibson, C. A. Faison and others.

N. C., Gibson.—Carolina State Bank of Gibson is chartered; authorized capital \$100,000. Organizers: W. H. Saunders, Hamlet; Z. L. Gibson and E. R. Livingston, Gibson.

Okla., Tulsa.—Tulsa National Bank of Tulsa is chartered. G. N. Wight, Pres.; E. L. Talmon and J. Truman Nixon, V.-Ps.; W. A. Brownless, Cash. This is a conversion of the Merchants & Planters' Bank.

S. C., Greenville.—Piedmont Savings & Trust Co. has been granted a commission; capital \$50,000. Petitioners: H. C. Markley, W. E. Beattie, N. C. Poe, J. E. Beattie, L. M. McBee, Charles McAlister and Perry Beattie.

S. C., Oates, Lamar Route No. 1.—Bank of Oates inceptd., capital \$10,000. C. N. Oates.

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Delaware Registration Trust Co.

Established 1899 Wilmington, Del.

Pres., Lamar Route No. 1; L. M. Lawson, V.-P., Darlington, S. C.; T. B. Holcombe, Cash., Lamar Route No. 1. Business is to begin Oct. 1.

S. C., Columbia.—McCormick Building & Loan Assn. has been chartered, capital \$10,000. T. M. Ross, Pres.; J. J. Dorn, V.-P.; W. E. Ranken, Secy.-Treas.

Tenn., Henning.—People's Bank, branch of the Tipton County Farmers' Union Bank, Covington, Tenn., has begun business; capital \$10,000; John T. Garner, Pres.; Peter Fyfe, Cash., and E. L. Vaughan, Mgr.

Tex., Belton.—Farmers' Mutual Fire Insurance Co. is organized with George W. Cole, Pres.; Sam D. Ware, Secy.; Tom Yarrrell, Jr., Treas.

Tex., Dallas.—General Loan & Investment Co., with headquarters at 320 Commonwealth Bldg., is organized with J. W. Rogers, Pres.; J. W. Murphy, 1st V.-P.; Crowley English, 2d V.-P.; Dave W. Hardy, Secy.; Goodhue Smith, Treas., and Charles Turner, Gen. Counsel.

Tex., Fayetteville.—Fayetteville State Bank chartered; capital \$30,000; directors, J. R. Kuhena, Pres.; John Chupik, Cash.; Aug. Heinsohn, J. C. Helbe and Leo Frede. Business is to begin Oct. 1.

Va., Newport News.—United Realty & Insurance Corp. has changed its name to Graff Bros. & Co., Inc. E. J. Graff, Pres.-Treas.; W. A. Graff, V.-P. and Secy.

NEW SECURITIES

Ala., Birmingham.—(School).—Ordinance providing for the issuing of \$500,000 of the \$2,000,000 bonds voted last June was defeated.

Ala., Eufaula.—(School).—\$15,000 bonds are voted. Address Board of Education.

Ala., Fayette.—(School).—Election is to be held Oct. 23 to vote on \$2500 high school and \$10,000 public school 6 per cent. 10-year bonds. W. B. Atkins is Mayor.

Ala., Montgomery.—(City Hall, School, Sewer).—Election ordered for October 17 to vote on \$250,000 city hall, \$25,000 school and \$25,000 sewer bonds has been called off. W. T. Robertson is Mayor.

Ala., Montgomery.—(Bridge).—Election is to be held in Montgomery County Nov. 7 to vote on \$50,000 4½ per cent. 30-year \$1000 denomination bonds for bridge across Tallapoosa River. R. H. Jones is Pres. Board of Commrs. W. F. Block is Clk.

Ala., Montgomery.—(Poor Farm).—Report that Montgomery County would issue \$15,000 bonds for purchasing poor farm is erroneous.

Ala., Piedmont.—(Sewer).—Ordinance has

Russian Government

5½% Internal Loan

Dated March, 1916

Due February, 1926

Free of all present and future Russian taxes

On account of the war the value of the Russian rouble in United States currency has depreciated materially. The low rate of exchange is readily explained by the unprecedented conditions now existing.

As the interest and principal of these bonds are payable in Russian roubles, purchasers can expect a profit on their investment with the return of a normal rate of exchange, and further opportunity for profit if the coupons be retained for collection at a favorable time.

The record of Russian Government Bonds has always been an excellent one. Russia has the greatest undeveloped resources of any country in the world. The present war will undoubtedly be an important factor in building up her world position.

We consider that these bonds offer an opportunity to invest in a standard security on most advantageous terms.

Detailed information will be sent on request.

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been prepared providing for the issuing of \$20,000 5 per cent. bonds. P. W. Roberts is Mayor.

Ark., Augusta—(Levee).—Bids will be received by J. H. Dale, Secy. Board of Directors Gibson Levee Dist., Woodruff County, for \$10,000 6 per cent. 10-year bonds.

Fla., Avon Park, P. O. Bartow—(Street).—Bids will be received until noon Oct. 12 for \$20,000 5 per cent. \$1000 denomination bonds. De Forrest Canfield is Chrmn. Bd. of Bond Trustees Town of Avon Park, De Soto County. Further particulars will be found in the advertising columns.

Fla., Bradentown—(School).—Bids will be received until Oct. 21, inclusive, for \$13,000 5 per cent. \$500 denomination bonds Ellenton School Dist., Manatee County; maturity Nov. 1, 1936. J. Cates is Chrmn. Board Public Instruction Manatee County. Further particulars will be found in the advertising columns.

Fla., Clearwater—(Park).—Election is to be held Oct. 23 to vote on bonds. Address The Mayor.

Fla., Cocoa—(Improvements).—\$25,000 6 per cent. bonds have been sold at about 165. H. L. Maxwell is City Clk.

Fla., Milligan—(Road Bridge).—Bonds are reported voted by Okaloosa County. Address County Commrs.

Fla., Panama City—(Road).—\$375,000 5 per cent. bonds, dated Jan. 1, 1917, and maturing Jan. 1, 1924 to 1938, inclusive, are voted. T. B. Young is Chrmn. Bd. of County Commissioners.

Fla., Tavares—(School).—Bids will be received until 11 A. M. Oct. 9 by Wm. F. Kennedy, Supt. Board Public Instruction Lake County at Umatilla, for \$2500 6 per cent. 15-year bonds Special Tax School Dist. No. 15 (Sorrento). L. M. Johnson is Chrmn.

Fla., Tavares—(School).—\$3000 Bay Lake Dist., Lake County, bonds have been purchased by the Board of Public Instruction.

Fla., West Palm Beach—(Street, Sewer, Indebtedness).—\$55,000 bonds recently voted are 30-year 5½ per cent; denomination \$500. A. M. Lopez is City Clerk.

Ga., Commerce—(Light).—Bids will be received until 10 P. M. Dec. 4 by C. A. Goodin, City Clk. and Treas., for \$10,000 5 per cent. \$500 denomination electric-light bonds, dated Jan. 1, 1916, and maturing Jan. 1, 1918, to 1937, inclusive.

Ga., Damascus—(Light, Water).—\$10,000 5 per cent. \$200 denomination bonds maturing 1938 are voted and will soon be offered for sale. J. D. Haddock is Mayor, and P. G. Webb, Clerk and Treasurer.

Ga., Griffin—(School).—\$65,000 4½ per cent. \$500 denomination bonds are voted. Dated Nov. 1, 1916; maturity \$2500 annually, beginning Jan. 1, 1921, to Jan. 1, 1946, inclusive. J. H. Smith is Mayor.

Ga., Manchester—(Water, Sewer).—\$45,000 water and sewer bonds are voted. Address The Mayor.

Ky., Covington—(Municipal Improvement).—Election is to be held to vote on \$500,000 bonds. Address The Mayor.

Ky., Morganfield—(Drainage).—\$52,500 6 per cent. bonds have been purchased by Duke M. Farson, Chicago, at 101.

Ky., Mt. Sterling—(Poor Farm).—Election is to be held in Montgomery County to vote on \$15,000 bonds for purchasing a poor farm. Address County Commrs. (Recently noted under date of Montgomery, Ala.)

Ky., Newport—(School).—Election is to be held Nov. 7 to vote on \$150,000 bonds. Address Bd. of Education.

La., Coushatta—(Road).—\$30,000 5 per cent. bonds Road Dist. No. 3, Red River Parish, have been purchased at par by J. R. Sutherland & Co., Kansas City.

La., Rayville—(Road, Bridge).—Election ordered Sept. 16 to vote on \$130,000 Richland County road and bridge bonds is postponed. Theo. J. Coenen is Chrmn. Progressive League.

La., Natchitoches—(Highway).—Bids will be received until 10 A. M. Oct. 30 for \$250,000 5 per cent. 20-year bonds Road Dist. No. 19, Natchitoches Parish. Miss Addie Tauzin is Secy. Police Jury. Further particulars will be found in the advertising columns.

Md., Baltimore—(School, Electric Subway, Street, Sewer).—City Council has passed ordinance authorizing the following loans to be voted on at the Nov. election: \$1,000,000 school, \$1,000,000 electric subway, \$2,000,000 annex street improvement and \$1,000,000 smooth street improvement. James H. Preston is Mayor.

Md., Cumberland—(Public Improvement).—Election Oct. 5 to vote on \$500,000 4½ per cent. 40-year \$1000 denomination bonds, dated Dec. 1, 1916, and maturing Dec. 1, 1956. Address C. F. Keyser, Commr. of Finance and Revenue. Thos. W. Koon is Mayor and A. W. Straub, City Clk.

Miss., Ellisville—(School).—Elections are to be held in Jones County Sept. 28 as follows: In Mt. Vernon to vote on \$3000 bonds Glade Consolidated School Dist. and in Liberty to vote on \$1000 bonds Fairview Public School Dist. Address Bd. of Suprvs.

Miss., Lucedale—(Road).—\$90,000 5 per cent. George County road-improvement bonds have been purchased at 101.73 by the Hibernia Bank & Trust Co., New Orleans.

Miss., Marianna, P. O. Holly Springs—(Road).—Bids will be received until 2 P. M. Oct. 2 for \$25,000 5, 5½, 5¾ or 6 per cent. road bonds. Denomination \$500. Dated Oct. 2, 1916. L. G. Fant is Atty. Board of Road Commrs. of Town of Marianna.

Miss., Oxford—(Drainage).—Bids received until noon Sept. 27 for \$50,455.91 6 per cent. bonds Yoknapatawpha Drainage Dist., Lafayette County. W. M. Woodward is Clk.

Miss., Yazoo City—(Road).—Yazoo County has sold the following bonds: \$163,000 Beat 3 at par, accrued interest and \$3000 premium, and \$70,000 bonds Beat 5 at par, accrued interest and \$275 premium. Address Board of Road Commrs.

Mo., Excelsior Springs—(Park).—Bids will be received at any time by W. S. Silvers, City Clk., for \$20,000 5½ per cent. 10-20-year park-improvement bonds.

Mo., Linn—(Road).—Election is to be held in Osage County Nov. 7 to vote on \$300,000 bonds. Address County Commrs.

Mo., Marysville—(Park).—\$11,000 bonds are reported voted. Address The Mayor.

N. C., Greensboro—(School).—\$10,000 bonds South Buffalo Special Tax School Dist., Guilford County, have been purchased by Donovan & Harris, Lansing, Mich.

N. C., Mocksville—(Water, Light).—Election is to be held to vote on bonds. Address O. V. Hutchens.

N. C., Morgantown—(Drainage).—Notice is given that \$10,000 6 per cent. 7-year Muddy Creek Drainage Dist., Burke County, bonds are to be issued. J. D. Patton is Prest. and J. A. Gettys, Secy., Muddy Creek Drainage Commission.

N. C., Oxford—(Street).—Bids will be received until 8 P. M. Oct. 5 by R. B. Hines, Clk. Board of Commrs., for not less than \$170,000 nor more than \$180,000 5 per cent. bonds.

N. C., Tarboro—(Water, Sewer).—Bids will be received until 9 A. M. Oct. 9 by J. H. Jacobs, City Clerk, for \$25,000 5 per cent. 20-year bonds. Denomination \$500 or \$1000, as

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requested by purchaser. Dated Oct. 1, 1916; maturity Oct. 1, 1946.

N. C., Wilkesboro—(Road).—\$250,000 5 per cent. 20-40-year \$1000 denomination bonds are voted and bids for same will be opened Oct. 11. Address W. H. Foster.

Okla., Ada—(School).—Election is to be held Sept. 30 to vote on \$20,000 bonds. Address Board of Education.

Okla., Alva—(School).—Bids will be received until 8 P. M. Oct. 2 by G. M. Lisk, Clk. Board of Education, for \$75,000 5 per cent. 1-20-year bonds dated Sept. 1, 1916. Denomination \$500 or at option of purchaser.

Okla., Arapahoe—(Road).—Plans are being made to hold an election in Custer County to vote on \$500,000 bonds. Address Comms.

Okla., Bristow—(School).—\$12,000 6 per cent. 20-year school district bonds were voted Sept. 6 and bids for same will soon be asked. F. W. Groom is Secy. Bd. of Education.

Okla., Checotah—(Water).—Election will probably be held to vote on \$100,000 bonds. Address The Mayor.

Okla., Chickasha—(Road).—Election will probably be held in Grady county to vote on \$200,000 bonds. Address County Comms.

Okla., Davis—(Sewer).—Recent bond election defeated.

Okla., Duncan—(Water).—Election is to be held to vote on \$6000 bonds. Address The Mayor.

Okla., Duncan—(Light).—\$5000 bonds have been voted for poles, generator, etc. Address The Mayor.

Okla., Durant—(Courthouse).—Election is to be held in Bryan County Nov. 7 to vote on \$100,000 bonds. Address County Comms.

Okla., Enid—(Water).—Election is to be held, it is reported, to vote on \$50,000 bonds. Address The Mayor.

Okla., Kusa—(Sewer).—\$25,000 bonds are reported voted and sold. Address The Mayor.

Okla., Nash—(Water).—Regarding report that city proposed to issue \$25,000 bonds, C. E. Wilson, Mayor, writes Manufacturers Record: "No bonds for Nash."

Okla., Okmulgee—(Water).—\$25,000 waterworks improvement bonds are reported voted. Address The Mayor.

S. C., Bennettsville—(School).—Bids will be opened Nov. 1 for \$1500 6 per cent. 20-year \$100 denomination bonds Kallock School Dist., Marlboro County. Address A. V. Roessel, County Supt. of Education.

S. C., Greenville—(Road).—Bids will be received until noon Oct. 10 for \$500,000 5 per cent. Greenville County bonds, dated July 1, 1915, and maturing July 1, 1920, until July 1, 1939. Denomination \$1000. W. H. Willimon, County Supvr., and J. W. Norwood, Chrmn. Greenville Highway Commission. Further particulars will be found in the advertising columns.

S. C., Newberry—(School).—\$27,500 bonds School Dist. No. 5, Hunter county, are voted. Address Board of Trustees.

S. C., Spartanburg—(School).—\$3000 Walnut Hill School Dist., Spartanburg County, bonds are to be issued. Address Bd. of Education.

Tenn., Centerville—(Road).—\$225,000 Hickman County bonds recently voted are 1-40-year 5 per cents. Denomination \$1000 and \$625. Date for opening bids not yet decided. W. L. Downey is County Clk.

Tenn., Lenoir City—(Street).—\$30,500 6 per cent. \$500 denomination bonds, maturing \$12,000 in 20 years and \$18,500 one-fifth annually, have been purchased at \$1000 premium, accrued interest and expenses by W. W. Willis & Co., Knoxville.

Tenn., Newport—(School).—\$6500 6 per cent. school site purchase bonds have been purchased at par, accrued interest and \$135 premium by W. W. Willis & Co., Knoxville.

Tenn., Savannah—(Road).—\$100,000 Hardin County bonds have been purchased at \$1690 and accrued interest by the Mercantile Union Trust Co., Jackson, Tenn.

Tenn., Shelbyville—(Road).—\$350,000 5 per cent. 40-year Bedford county bonds defeated. J. G. Lynn is Clerk.

Tex., Austin—(Bonds approved by Attorney-General).—\$14,000 street, \$12,000 water, \$16,000 school, \$3000 sewer 5 per cent. 10-40-year, Vernon; \$10,000 Grayson County Road Dist. No. 3; \$10,000 5 per cent. 10-40-year

bonds Chillicothe Independent School Dist.; \$55,000 Dist. No. 9, \$20,000 Dist. 11, 5 per cent. 10-40-year road improvement, Fannin County; \$40,000 series D, \$60,000 series E, \$10,000 sewer, 5 per cent. 10-50-year, Paris; \$180,000 Dist. 4 and \$100,000 Dist. 5 5 per cent. 40-year Navarro County road; \$50,000 5-40-year Sweetwater sewer; \$115,000 Fannin County road.

Tex., Brownsville—(Road).—Election will probably be held in Cameron County to vote on \$15,000 bonds Dist. No. 7. Address County Clk.

Tex., Cisco—(Sewer).—Election is to be held to vote on \$20,000 bonds. Address The Mayor.

Tex., Kenedy—(Water, Sewer).—\$32,000 bonds have been sold to O'Neill & Son, Dallas, at par and accrued interest.

Tex., Maypearl—(Water).—\$7000 bonds are voted. Address The Mayor.

Tex., Mexia—(School).—Election is to be held Oct. 24 to vote on \$9000 bonds. Address The Mayor.

Tex., Port Arthur—(Street).—Bids will be received until 10 A. M. Sept. 30 by L. A. Witter, City Clk., for \$64,000 5 per cent. 1-40-year bonds.

Tex., Quitman—(Road).—Election is to be held in Road Dist. No. 6, Wood county, to vote on \$150,000 bonds. If election carries, bonds will probably be offered for sale in two or three months. Records are also before the Attorney-General for approval of bonds for \$50,000, Road Dist. No. 5, and \$18,000, Road Dist. No. 4, which will likely be sold within three or four months. Address G. A. McCreight.

Tex., Rusk—(Road).—Election is to be held in Cherokee County to vote on \$300,000 bonds, and in Jackson County precinct Oct. 14 on \$250,000 bonds. Address County Comms.

Tex., Sulphur Springs—(Road).—\$50,000 Cumby Dist., Hopkins County, bonds are sold. Address County Comms.

Tex., Weatherford—(Road).—Petition is being circulated in Parker County to call an election to vote on \$600,000 bonds. Address county Clk.

Tex., Yorktown—(School).—\$10,000 5 per cent. 40-year \$1000 denomination bonds have been purchased by F. Kraege, Yorktown.

Va., Buckingham—(Road).—Bids will be opened Oct. 2 for \$50,000 5 per cent. 30-year \$1000 denomination Buckingham county bonds. Address W. J. Hubbard, Clerk Board of County Suprvs. A. C. Wood is Chrmn.

Va., Covington—(Road).—Bids will be opened Jan. 1 for \$100,000 5 per cent. 10-34-year denomination Covington Dist., Alleghany County, bonds, dated Jan. 1, 1917. Denomination \$500. R. B. Rose is Chrmn. Bd. of Suprvs.

Va., Eastville—(Road).—\$25,000 Eastville Magisterial Dist. and \$10,000 Franklin Magisterial Dist., Northampton County, bonds have been sold. Geo. T. Tyson is Clk. Board County Suprvs.

Va., Richmond—(School).—\$35,000 5 per cent. 15-30-year bonds Tuckahoe School Dist., Henrico County, are voted. Samuel P. Waddill is Clerk and R. Carter Scott Judge of Henrico County.

W. Va., Charleston—(School).—Election is to be held Sept. 30 to vote on \$150,000 4 1/2 per cent. \$1000 denomination bonds Charleston Ind. School Dist., Kanawha County. Val Fruth is Pres. Board of Education and W. O. Daum, Secy.

W. Va., Pennsboro—(Street).—Bids will be received until noon Oct. 20 for \$25,000 6 per cent. 10-year bonds. Okey E. Nutter, W. H. Lantz and John O. McDougal, City Comms.

W. Va., Lewisburg—(Road).—Election is to be held Oct. 7 to vote on \$121,000 5 per cent. 20-year bonds Fort Spring Dist., Greenbrier County. Jno. S. Crawford is Clk. County Court. (Previously noted.)

FINANCIAL NOTES

T. Stockton Matthews has been appointed manager of the bond department of Robert Garrett & Sons, bankers, Baltimore. He was formerly with Baker, Watts & Co. for 14 years, and has made a specialty of investigating, buying and selling municipal, county and State securities, besides being also widely informed concerning other bonds. Herman A. Tingley, former manager of the bond department, will hereafter devote his time to corporation affairs and other business of the firm.

INDUSTRIAL NEWS OF INTEREST

[Continued from Page 67.]

Reorganizes Machinery Supply Company.

The Seeger-Walraven Company of Atlanta has been incorporated with a capital stock of \$15,000 to sell machinery, machine tools and mill supplies. General offices and a large store have been opened at 38 W. Alabama St. F. A. Seeger, formerly of the Seeger Machine Tool Co., which company has been handling about twenty machine tool accounts in the South, and these will be sold through the new company, and J. C. and J. R. Walraven, both of whom until recently have been with the Fulton Supply Co., form the nucleus of the new company. The Atlanta territory will be covered by this new firm.

Kemp Heating System Cuts Gas Consumption.

The Kemp system of heating tenting machines, developed by the C. M. Kemp Manufacturing Co. of Baltimore, has been in operation for some months in the plant of Jos. Bancroft & Sons Co., Wilmington, Del. With this system it is claimed all of the steam radiation has been dispensed with and the gas consumption about cut in half. The Kemp system of operating tenting machines provides a blast of air heated to a temperature of 750 degrees to 1025 degrees Fahrenheit. This hot-air blast is obtained without the use of a compressor or blower, is directed against the cloth and dries the cloth most efficiently.

TRADE LITERATURE

Electric Rates of the Larger Cities.

Types of electric rates used in the larger cities of the country are analyzed and discussed in the September monthly rate letter of Norton, Bird & Whitman, engineers, Munsey Bldg., Baltimore, and 111 W. Monroe St., Chicago. The different forms of electric rates are classified, described and illustrated with diagrams, while the merits or demerits and particular features of each system are pointed out. The firm makes a specialty of construction, design, rate surveys, preparation of rate schedules, appraisals, reports and investigations of individual and utility properties.

Pan-American Record.

With the reorganization of the Pan-American Petroleum & Transport Co., Los Angeles, New York, New Orleans and cities in Central and South America, a new publication, entitled the "Pan-American Record," has made its initial appearance, and like its predecessor, the "Mexpet Record," is intended to disseminate full and accurate account of the rapidly expanding business of the company. Special features of each number will be the photographs of the com-

pany's extensive properties, and articles giving a detailed account of the activity in various branches. The first issue of the Pan-American Record explains the reason for its inception and existence and describes the enlarged scope of the Pan-American Petroleum & Transport Co. Several of the company's oil tankers are illustrated in this issue, together with illustrations showing the holdings of the company at different points in Mexico and Louisiana. A concise history is given of the Pan-American Pe-

roleum & Transport Co. and its subsidiaries: the Mexican Petroleum Co. of California; Huasteca Petroleum Co.; Mexican Petroleum Co., Ltd., of Delaware; Petroleum Transport Co., and its subsidiary, the Compania Naviera Transportadora de Petroleo, S. A.; Mexican Petroleum Corporation, and the Pan-American Petroleum & Transport Co. Several pages are devoted to data relating to the oil industry, which should be of interest to the engineer and oil expert.

Corliss Engine

Exceptional bargain: 22"x48" Slater heavy-duty right-hand Corliss Engine; heavy tangye bed; bored guides; disc crank; solid-end connecting rod; shaft 13" in wheel, 11" in bearings, 14" in crank shaft, 10' 6" long; bearings 24" long, wheel 14' diameter, 38" face, in two sections, each section has 5 arms; crank pin 6 1/2"x6"; crosshead pin 5"x6"; piston rod 3 1/2" diameter; good as new; low price to quick buyer. Will develop 250 H. P. to 400 H. P.

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Gas Engine and Producer Complete Less Than Half Price

65 H. P. Munzel Gas Engine, complete with gas producer. In A-1 condition. Replacing with a larger outfit. Price \$1200 f. o. b. Dodge Center, Minn. Would cost more than twice as much new.

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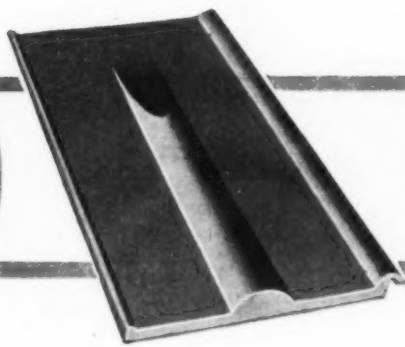
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726 ACRES land with some timber and a large deposit of talc, located in Cape Breton, Canada. Owner, Box 502, New Haven, Conn.

SPECIAL BARGAINS.—By reason of recent flood losses, large tracts of timber, also orchard and copper lands, for sale. Box 108, Wilkesboro, N. C.

PYRITE PROPERTY

PYRITE PROPERTY.—For sale or lease; paying mines now being operated on same land; time given to prove deposit. Fred S. Wilson, 211 McKinzie Bldg., Atlanta, Ga.

IRON AND MANGANESE DEPOSITS

FOR SALE.—Several hundred acres containing iron and manganese ore. Analysis up to 70 per cent. Near railroad in Virginia. Good proposition for a big corporation. Have mining engineer's report. W. M. Hannah, 605 Mutual Bldg., Richmond, Va.

FOR SALE.—MANGANESE. —About 800 acres manganese mineral rights in Frederick Co., Va., about 10 miles from R. R. station. Good roads. Property now being operated. High-grade manganese ore being mined and shipped. Property easily investigated. Chas. F. Nelson, Riverton, Va.

UMBER PROPERTY

UMBER PROPERTY FOR SALE.—The largest and only commercial vein of genuine umber in the U. S. for sale. Vein is 4 to 5 ft. thick, covering large area. Price \$50,000. Well prospected. Brokers and agents, write for listing. Address T. W. Glover, President, Guntersville, Alabama.

PHOSPHATE DEPOSITS

RICH PHOSPHATE DEPOSIT.—213 acres, located one mile railway station; estimated 100,000 tons high-grade rock. Price \$25,000. Will double in value as soon as the Government nitrate plant at Muscle Shoals is completed. The property is worth this amount for farm land, as it is a well-improved farm, but the owner wants to sell. Write immediately. Figuers Realty Co., Columbia, Tenn.

GOLD PROPERTY

NEW GOLD FIELD.—The Georgia Gold Mining Company has undeveloped gold property in the coming gold belt of the country. You can't make any mistake in learning about this property. Write about it, ask about it, come and see it, know for yourself. Stock brokers need not answer this advertisement; no stock for sale. Georgia Gold Mining Co., at the Mine, Tallapoosa, Ga.

LIMESTONE

OOLITIC LIMESTONE.—For sale, 40 acres, almost solid, highest quality, 1 mile from R. R. Samples sent on request. Wm. Maloney, Owner, 215 S. 12th St., Gadsden, Ala.

COAL MINE

COAL OPERATION FOR SALE. McDowell County, W. Va., on the Norfolk & Western Ry. Genuine No. 3 vein Pocahontas smokeless, also carrying No. 4 seam Pocahontas. For acreage, price and terms address No. 2021, care Manufacturers Record, Balto., Md.

COAL LANDS

COAL FOR LEASE ON ROYALTY. ACCESSIBLE LOCATION. ECONOMIC OPERATION AND DISTRIBUTION.

(1) Compact body of 5500 acres of bituminous coal land, bisected by the 500-foot-deep valley of a large stream which, with its three affluents, affords easy access by drift mining to numerous level coal seams from 4 to 6 feet thick. (2) Trunk-line railroad on the property, which is 15 miles from Chattanooga, a great railroad center. (3) Different companies, now in full operation, have mined millions of tons up to and along the north and the east lines of this property. (4) 300 acres of cultivated level land along the trunk-line railroad tracks for coking operations, with easy down-grade delivery thereto. (5) No incumbrances. (6) Plenty of mine timber on the property. (7) Coal is of steaming and coking quality, part identical with Govt. report upon Connellsville coal. (8) Can be leased as whole or in parts. Address Cumberland, 606 Coal Exchange, Wilkes-Barre, Pa.

RATES AND CONDITIONS

Rate 20 cents per line per insertion. Minimum space accepted, four lines. In estimating the cost, allow seven words of ordinary length to a line. When the advertisement contains a number of long words, proper allowance should be made. Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 1¢. per line; 300 lines, 16¢. per line; 500 lines or more, 15¢. per line.

COAL LANDS

BARGAIN.—4700 acres of coal land in the heart of the Western Kentucky coal field; undeveloped, but thoroughly tested, showing 3 seams of coal, aggregating 16½ feet. Must sell to settle estate. Brokers need not reply. W. L. Beard, Tracy City, Tenn.

COAL TRACT WANTED

WANTED TO LEASE OR PURCHASE.—500 to 2000-acre coal tract. Coal must be of good quality, not less than 24 or more than 60 inches in thickness. Roof and pavement must be hard. In replying give location of tract, analysis of coal, freight rates to market, selling price, shipping facilities, equipment, if any, and state royalty desired and sale price and terms. Address No. 2053, care Manufacturers Record, Balto., Md.

COAL AND TIMBER LANDS

FOR SALE.—Coal and timber lands in Southeastern Kentucky near railroads; any sized tracts; also mineral and timber tracts in East Tennessee. Spears Havelly, Hubbard Springs, Va.

TIMBER

A GREAT OPPORTUNITY.—I offer for sale and control 50,000,000 to 250,000,000 feet, expertly estimated, of original and second growth yellow pine timber in State of Georgia, beginning 2½ miles from railroad and extending back some 30 or 35 miles, at low price and on favorable terms. There are, too, 500,000 cords of pulpwood in this proposition, also considerable dogwood and other hardwoods. Interest invited in railroad which could be profitably made link in road now contemplated and partly in operation. My agent will meet interested parties in Augusta, Ga., and show them over the proposition. Please respond with early date for meeting and examination. R. Y. Zachary, 1221 W. Lafayette Ave., Baltimore, Md.

FOR SALE.—BY OWNERS.—Several tracts hardwood timber, white oak and chestnut oak, in boundaries from 2,000,000 to 15,000,000 feet, located on Chesapeake & Ohio Railway in Alleghany county, Virginia; also on branch Norfolk & Western Railway in Craig county, Virginia, and Monroe county, West Virginia. Address "Timber," P. O. Box 865, Charleston, W. Va.

TIMBER LAND

36,000 ACRES in Santo Domingo (Dominican Republic). Estimated to cut 20,000,000 ft. of mahogany, 12,000,000 ft. of satin wood, 20,000 tons of lignum vitae, 40,000 tons of bera wood (very much like lignum vitae), besides many other varieties of fine woods, including cedar, some of which are 8 ft. in diameter. Price \$5 per acre, one-third cash, and will take land off his hands after the timber is cut at \$1 per acre. This is a tremendous bargain, only for a short time. 7 miles of water front; good anchorage. Title perfect. H. C. Hoggard & Co., Dickson Bldg., Norfolk, Va.

\$6.00 PER ACRE IN FEE. 15,000 acres virgin long-leaf yellow pine, Manatee Co., Fla. Will cut 2500 feet saw log and 40 turpentine boxes per acre. Good logging. Manatee Co. uses over a MILLION fruit and vegetable crates annually, and there's not a crate factory in the county. Excellent farming land after timber is removed. Adjacent colony lands retelling for \$50 per acre. R. W. Barnwell, 621 Candier Building, Atlanta, Ga.

FOR SALE.—21,000 acres very fine virgin hardwood timber land in North Louisiana, on river and near railway. Will cut 8000 ft. white and red oak and red gum per acre. Very fine land. For quick sale, price \$13 per acre. Hudson Real Estate Co., Cabot, Ark.

FARM AND TIMBER LANDS

4000 ACRES, half timber and half cut-over land, for sale, preferably as a whole or in tracts of not less than 1000 acres each; property joins the town of Surrency, Appling county, Ga., on Southern Railway main line; fine stand of both pine and cypress timber; ideal location for stock farm or combination mill and colony farming. Land in vicinity noted for its record production of staple crops. For sale by owner, attractive price and terms, especially if bought as a whole. Wm. Hurd Hillyer, Atlanta, Ga.

WE OWN LARGE TRACTS OF TIMBER LANDS, cut-over lands and colonizing lands. If interested, address H. H. Wefel, Jr., & Co., Mobile, Alabama.

FARM FOR SALE.—Good dwelling, tenant-houses, ginhouse, 4 miles from Savannah River; \$30 per acre. 500 acres farm and timber land, \$10 per acre. Mrs. J. W. Brannen, Oliver, Ga.

FARM AND TIMBER LANDS

OUR NEW ILLUSTRATED CATALOG, describing nearly 100 choice farms, orchards, timber tracts, country estates and river plantations, is just off the press and will be mailed free on request. Write for it. Venable & Ford, Lynchburg, Va.

FOR SALE.—Plantation of 1800 acres with 600 acres river bottom in cultivation, balance good timbered land. Good improvements; only 2½ miles of railway and fine paved road; \$15,000 worth of cotton raised on plantation this year. Price only \$16 per acre. Hudson Real Estate Co., Cabot, Ark.

FOR SALE.—2000 acres timbered land, mile and half to railroad, three miles to water transportation. Three million feet pine timber. Good farm land and finely located for subdivision. Price for quick sale, \$5 per acre in fee. Address R. W. House & Bro., Oak City, N. C.

FLORIDA Grazing, Farm and Timber Lands. Tracts of 4000 acres to 70,000, ranging in prices from \$3.50 to \$10 per acre. Some large tracts that should appeal to cattlemen. Jas. R. Vaughan, 913 Main St., Jacksonville, Fla.

CITY AND SUBURBAN PROPERTIES

THE CITY OF CHARLOTTE, N. C., in spite of wars and rumors of wars, is going steadily on with its building operations and growth.

Over \$150,000 of new homes just being completed or in process of completion. Over \$750,000 of business and public buildings in process. We offer several very attractive investment opportunities in central business locations. Also, several very well located suburban tracts, which are capable of large profits within the next few years. Thirty years' real estate experience in New England and in Charlotte at your service in dealing with F. C. Abbott & Company, 1002 Commercial Bank Bldg., Charlotte, N. C.

WE OFFER 155 San Antonio city lots; all facing macadam and tarried street; all on elevation overlooking the entire city; 3 colleges from one to three blocks distant; 3 churches from two to five blocks; water in every alley and sewer line to middle of property; lots 50x154. Builder can easily make \$1000 each on these. Many lots are in blocks where homes are built costing from \$3500 to \$12,000. Nothing better can be found in this class. Lacks & Knight, San Antonio, Texas.

STOCK FARMS

CATTLE AND HOGS are money-makers; get on ground floor for land to raise them on; Armour in Jacksonville; Moultrie in Ga. Now we have 2100 acres 40 miles, 15,000 acres 30 miles from Jacksonville at \$7.50 per acre. 1000 acres close to Moultrie, Ga., at \$5 per acre. Good timber and plenty of water on all above lands. Ineeda Realty Co., Thomasville, Ga.

STOCK FARMS in lime belt at low prices. Come now and see the cattle, hay, clover and beans. R. E. Lambert, Darlington, Wilcox Co., Ala.

FARM AND RANCH LANDS

60,000 ACRES improved ranch, stocked with high-grade Hereford stock cattle, at a bargain. Address Box 40, Marfa, Texas.

FRUIT, FARM AND TRUCK LANDS

ALABAMA

FARM OF 343 ACRES, good bottom land, for sale; 20 miles north Selma, Ala., on Southern Railway, ¾ mile of station; eight-room dwelling, six tenant-houses, two to four rooms each; one mile of church and good school; good orchard; fine water, one mineral well in yard; private phone in house, connecting with long distance; buildings in good repair. Address Harvill Bros., Plantersville, Ala.

CUBA

SOME FINE GROVES and small plantations, 3 with houses ready for occupancy; all kinds of property from 2½ acres for \$25 up to millions. Hartley-Hellyer, Balto., Md.

FLORIDA

REAL ESTATE BARGAINS. For high-grade orange groves, winter homes, city property, timber tracts, Florida cattle ranches and other properties of all kinds consult The Waring Realty Co., Orlando, Fla.

FLORIDA

FOR SALE.—420 acres in one tract, with one solid mile of frontage on the beautiful, navigable Imperial River, a delightful water avenue to the Gulf of Mexico, but 4 miles distant, and lying immediately adjacent to the growing town of Bonita Springs. Sixty acres of this splendid tract, fronting one-half mile on the Imperial River, comprise an excellent grove of budded orange and grapefruit trees, now bearing with rich profitability. Write for full information P. O. Box 265, Fort Myers, Florida.

FOR A SAFE and permanent investment Florida lands and values should interest you. Manatee County is the best location, and is destined to become one of the most progressive settlements in the State and a very profitable investment. Florida farms in Manatee County are below frost belt; have rich soil, with 365 producing days. Easy terms. J. Henry Strohmeier, Maryland Casualty Tower Building, Baltimore, Md., and Sarasota, Florida.

FOR SALE.—Florida orange and grapefruit groves and truck lands; improved or unimproved. The size of tracts ranging from 10 acres up, totaling 1500 acres. Prices vary on account of location, quality of soil and value of improvements. All of my properties are convenient to rail and water transportation and hard-surfaced roads. The lands are on or near Terra Ceia Bay. F. C. Armstrong, Terra Ceia, Fla.

FOR SALE.

735 acres, Ocklawaha River valley lands, suitable for truck, fruit, general farming and stock; no improvements. Price \$10,000; terms. No exchange. John M. Graham, Ocala, Fla.

FREE "THE WINTER GARDEN OF AMERICA," to Fruit Growers, Truckers, General Farmers, Cattle, Hog and Poultry Raisers. Folks interested in the great Indian River Section of Florida write Indian River Farms Company, Suite O, 609, Putnam Bldg., Davenport, Iowa.

HERE'S YOUR SOUTHERN HOME.—A few families of fair means who would enjoy rural life in a successful community among genial Northern people can find an exceptional location in Dexland, on the Escambia River, twelve miles north of Pensacola. Two railroads with stations at Gonzales—tea local trains daily—furnish the best transportation of any point in the country. Come and go any time by river, rail or road. Valuable assistance offered to new settlers by resident farmers, gardeners and orchardists, now established and making good. Perfect surroundings for live stock and poultry. Address Chas. A. Dexter, "Dexland," Gonzales P. O., Fla.

GEORGIA

FOR SALE.—30-acre pecan grove, over 500 bearing trees. Nuts took first prize for the past three years at the Georgia State Fair. Grove formerly owned by C. H. Parker of Wilkinson county. For price communicate with H. M. Skeltan, Irwinton, Ga.

EIGHT HUNDRED ACRES of high land, 4 miles from Savannah; two railroads; half cleared and under cultivation; fully equipped for dairy or stock raising; all fenced; good improvements. Will take part cash and exchange balance for city property. Skellington & White, Savannah, Ga.

MARYLAND

FARM FOR SALE.—260 acres gently rolling light to heavy loam; 220 arable; 30 big timber; 90 in corn; 2 dwellings, stable, 4 barns; tobacco; near railroad and State road; stock; machinery; crop. Easy terms; part trade. \$10,000. H. W. Flagg, Charlotte Hall, Maryland.

NORTH CAROLINA

FOR SALE.—Farm, 107 acres, Moore Co., N. C., 2½ miles from Samacram, on N. & S. R. R.; 35 acres open; soil both sand and clay; 7-room house, barn, etc. Fruit and grapes for home use; good well water; school in sight; rural route by door. Cash, \$2700. Also other good lands. Address S. F. Seawell, Entwistle, N. C.

OKLAHOMA

FOR SALE.—260-acre improved wheat and oat farm; \$22.50 per acre; Atoka County; 180 acres cultivated; also many other bargains. William Gill & Co., Atoka, Okla.

SOUTH CAROLINA

FOR SALE.—Plantation containing 1200 acres in Beaufort County, South Carolina. Some timber. Also plantation containing 1700 acres in Hampton County, South Carolina. Some good timber. Easy terms; would lease. Box 80, Camden, S. C.

TEXAS

FOR SALE.—126 acres fine black waxy land, 2 sets fine home improvements, 76 acres and 50 acres; 2 fine wells everlastingly water on each; located 1 mile southwest Mart, at bargain. Terms to suit purchaser; all of either place. Charles A. Weathered, Waco, Texas.

VIRGINIA

2700-ACRE FARM on James River, Va.; deep-water facilities; 1700 acres fine timber; 1000 acres high state of cultivation; well equipped; new barns, etc.; splendid rich man's estate. Apply for price, Green & Redd, Richmond, Va.

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